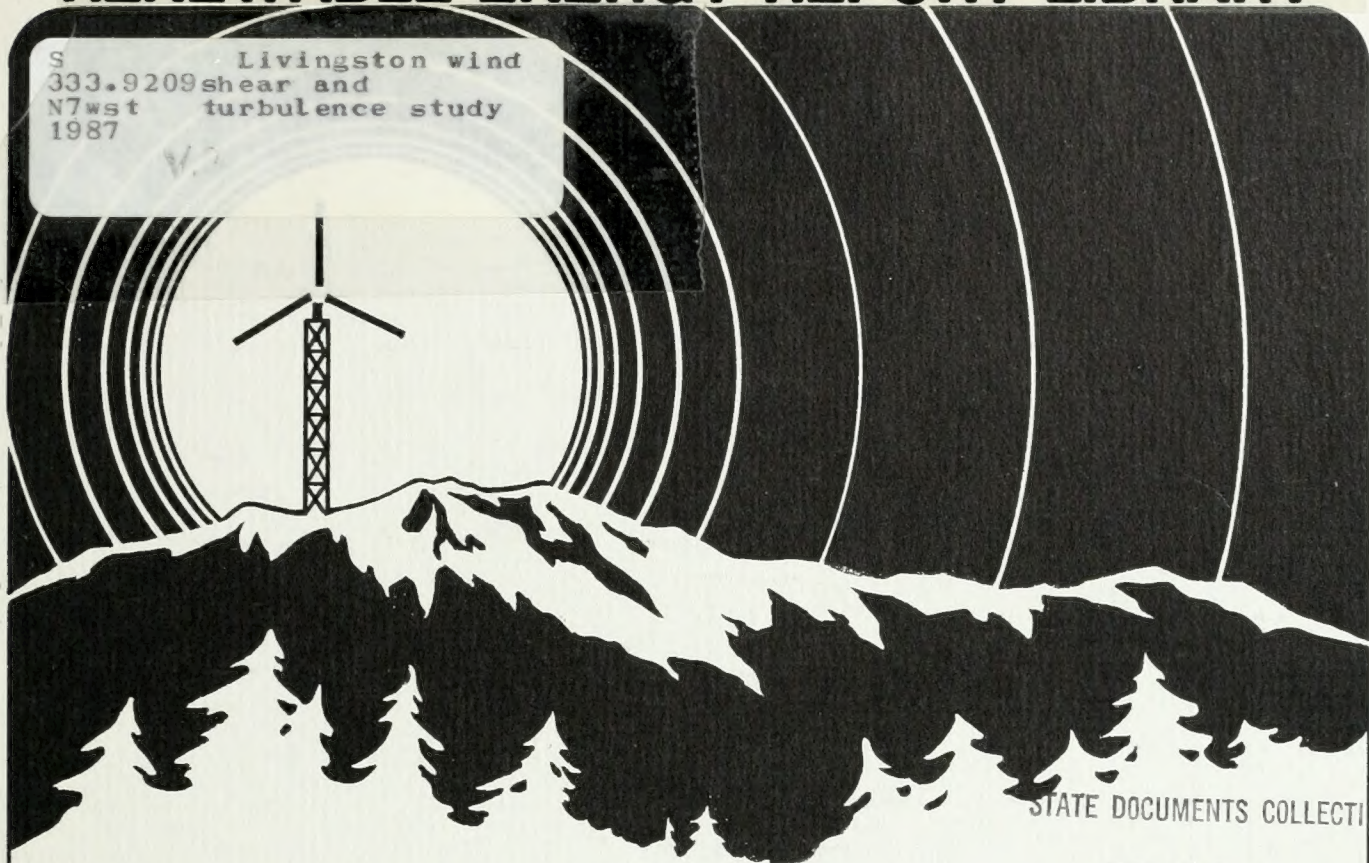


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AT LIVINGSTON, MONTANA

MILESTONE 5 -- FINAL REPORT

VOLUME II

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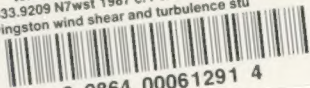
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LIVINGSTON WIND SHEAR AND TURBULENCE STUDY

MILESTONE NO. 5

FINAL REPORT

VOLUME II

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August 1987

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SUMMARY OF APPENDICES C, D, AND E

The following appendices present summarized data for Livingston that was not included in the text portion of the final report. Descriptions of the types of data contained in each appendix are given below.

Appendix C

Appendix C presents monthly wind speed, wind direction, and wind energy statistics for each tower level monitored. The following information is presented for each month:

- Average wind speed and wind direction for each hour of the day, for each tower level monitored;
- Daily average wind speed, wind direction, and wind speed for each tower level monitored; and
- Monthly average wind speed, wind direction, and wind energy for each tower level monitored.

Appendix D

Appendix D presents monthly wind roses for each tower level monitored. Wind speeds are divided into 0.4 ms^{-1} categories; wind directions are divided into 16 categories of approximately 22.5 degrees each. Each number within the array indicates the number of

occurrences during the particular month falling within the indicated wind speed and wind direction ranges. Also included are the percent of observations falling within each wind speed and wind direction range, and the average wind speed for each wind direction range.

Appendix E

Appendix E provides extensive data relating turbulence and wind shear to other meteorological data, in the form of 4 types of data arrays, presented in Sections 1-4. These arrays include wind shear and turbulence data collected during the entire monitoring period, from September 1985 through November 1986.

The arrays presented in Section 1, Joint Frequency Count Arrays, give joint frequency counts of turbulence and wind shear with other meteorological variables. Each count in the array represents the number of simultaneous occurrences of both variables falling within their indicated ranges.

The arrays in Section 1, Joint Frequency Distribution Arrays, give joint frequency percentages of turbulence and wind shear with other meteorological variables. Each number in the array shows the percentage of the time that simultaneous values of both variables within their respective ranges occurred.

In section 3, Percent Frequency Distribution Arrays are presented. These arrays give frequency distributions of wind shear and

turbulence for each range of a given meteorological variable. For example, in the percent frequency distribution array combining alongwind turbulence intensity and wind speed at 9 meters, each row gives a frequency distribution of alongwind turbulence intensity at 9 meters for the indicated wind speed range.

Section 4 presents Cumulative Percent Frequency Arrays. These are similar to the Percent Frequency Distribution Arrays, except that they show the percentage of the time that turbulence and wind shear exceeded certain levels, given a range of some other meteorological variable such as wind speed.

APPENDIX C

MONTHLY WIND SPEED, WIND DIRECTION AND WIND ENERGY STATISTICS

Hourly Averages For SEP, 1985

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	5.5	6.3	6.6	206	208	213
01	02	5.8	6.5	6.9	212	214	219
02	03	6.3	7.2	7.6	209	211	215
03	04	6.8	7.6	8.0	225	224	227
04	05	6.5	7.2	7.6	227	227	231
05	06	6.1	6.8	7.1	226	225	229
06	07	6.2	7.0	7.3	220	219	224
07	08	6.6	7.4	7.8	220	218	221
08	09	6.5	7.2	7.5	222	220	223
09	10	7.4	8.0	8.2	219	217	221
10	11	7.1	7.6	7.8	233	232	235
11	12	7.5	8.0	8.2	232	231	234
12	13	7.4	8.0	8.1	230	230	233
13	14	7.5	8.1	8.3	234	233	236
14	15	7.8	8.4	8.6	240	239	242
15	16	8.0	8.7	8.9	240	239	241
16	17	7.3	7.9	8.2	249	249	250
17	18	6.5	7.2	7.5	236	236	239
18	19	5.6	6.3	6.6	191	193	199
19	20	5.9	6.5	6.8	163	168	176
20	21	6.5	7.3	7.6	138	137	145
21	22	6.5	7.3	7.6	145	143	149
22	23	6.0	6.6	6.9	148	147	153
23	00	5.6	6.2	6.4	160	160	169

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

TABLE C-1

Daily Averages For SEP, 1985

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	8.5	9.3	9.5	78	74	78	348.3	463.1	484.9
8	7.0	7.7	7.9	82	78	82	221.7	298.6	318.8
9	8.9	9.9	10.1	87	83	87	447.7	620.2	667.1
10	6.5	7.1	7.2	84	81	85	165.5	225.1	239.8
11	4.9	5.4	5.5	92	88	92	111.3	155.9	167.2
12	10.4	11.6	12.2	236	233	236	669.4	935.0	1071.2
13	8.0	8.8	9.3	209	208	211	393.3	543.3	626.6
14	5.5	6.0	6.2	206	205	209	194.3	251.3	280.1
15	5.3	5.7	5.9	249	252	256	156.1	206.6	228.3
16	9.6	10.8	11.3	249	247	250	584.7	795.9	893.2
17	7.8	8.5	8.9	229	227	231	408.0	551.8	630.4
18	4.1	4.4	4.5	265	268	272	54.8	72.3	79.3
19	4.3	4.7	4.8	259	258	262	72.5	92.6	100.0
20	6.1	6.9	7.2	231	229	232	151.0	213.9	246.0
21	8.5	9.5	9.9	239	237	241	510.4	696.9	793.0
22	3.2	3.4	3.6	307	305	309	26.2	34.2	37.7
23	5.5	6.0	6.2	238	236	238	145.2	203.5	232.2
24	7.2	7.8	8.2	240	238	242	339.7	472.2	539.2
25	4.8	5.3	5.6	252	249	252	80.1	104.5	114.7
26	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Monthly Averages For SEP, 1985

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
SEP	6.6	7.3	7.6	217	217	221	2.70E+2	3.69E+2	4.13E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	12641	12641	12641
Monthly Count:	21600	21600	21600
Percent Recovery:	58.52 %	58.52 %	58.52 %

Hourly Averages For OCT, 1985

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	7.4	6.9	8.6	223	233	226
01	02	7.7	7.6	8.7	219	221	223
02	03	7.5	7.0	8.7	219	227	223
03	04	7.4	7.0	9.0	217	229	220
04	05	7.5	7.6	9.0	217	237	218
05	06	7.8	8.3	9.6	215	224	213
06	07	8.3	9.6	10.1	211	212	210
07	08	8.2	9.6	9.9	209	212	207
08	09	8.7	9.4	10.3	207	205	206
09	10	9.3	9.1	10.8	209	210	207
10	11	9.3	9.1	10.5	212	208	210
11	12	9.5	10.1	10.5	214	216	215
12	13	9.3	8.8	10.2	231	244	231
13	14	9.3	8.1	10.1	241	268	240
14	15	9.0	8.6	9.9	252	271	252
15	16	8.9	8.2	9.6	249	259	249
16	17	8.3	8.1	9.1	248	262	249
17	18	7.3	7.1	8.2	251	263	253
18	19	7.2	7.0	8.1	234	236	241
19	20	7.2	6.6	8.0	229	235	231
20	21	7.2	6.1	7.8	224	235	226
21	22	7.7	6.3	8.4	222	236	225
22	23	8.0	6.8	8.9	219	232	220
23	00	6.9	6.3	8.1	223	239	224

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Daily Averages For OCT, 1985

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	***	***	***	***	***	***	***	***
2	9.7	10.7	11.4	262	259	264	538.4	738.1	872.2
3	7.0	7.9	8.3	240	237	243	265.8	388.9	468.8
4	6.7	7.4	7.8	220	216	218	239.9	321.0	371.8
5	8.4	7.6	9.4	221	231	223	578.1	481.1	836.6
6	5.9	6.2	6.6	83	79	83	187.2	275.6	267.7
7	8.5	9.2	9.0	59	55	58	413.8	524.8	517.0
8	3.7	4.1	4.3	2	357	360	48.7	63.9	72.6
9	***	***	***	***	***	***	***	***	***
10	7.1	***	8.3	225	***	228	271.9	***	399.4
11	9.9	***	11.7	222	***	220	654.8	***	1087.9
12	5.9	7.3	6.9	256	245	260	166.1	259.2	259.4
13	9.5	11.5	11.0	240	227	241	556.3	964.0	859.1
14	12.2	10.0	14.3	223	231	226	1379.6	584.0	2144.5
15	11.2	***	13.2	217	***	219	994.4	***	1636.2
16	13.3	5.8	16.1	207	255	209	1714.9	118.1	2975.5
17	6.1	6.8	7.1	245	237	246	153.6	204.0	245.9
18	5.8	***	8.0	205	***	200	138.4	***	567.7
19	9.4	11.2	11.0	212	194	211	495.4	789.5	803.7
20	7.0	5.7	6.8	203	188	196	276.2	234.0	359.8
21	4.8	***	4.8	177	***	208	72.5	***	77.4
22	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***
27	6.7	7.5	7.9	218	219	217	300.4	413.7	473.6
28	10.7	11.9	12.5	237	238	235	969.2	1347.7	1522.3
29	2.6	2.6	2.5	106	97	112	12.2	13.2	13.1
30	7.5	8.6	9.1	235	235	233	338.2	508.6	613.0
31	5.4	6.1	6.4	277	278	276	135.8	194.2	221.4

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	13820	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.92 %	38.73 %	67.21 %

Monthly Averages For OCT, 1985

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
OCT	8.1	7.8	9.2	225	232	225	5.16E+2	4.62E+2	7.94E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	13822	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.93 %	38.73 %	67.21 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	13820	8644	15001
Monthly Count:	22320	22320	22320
Percent Recovery:	61.92 %	38.73 %	67.21 %

Hourly Averages For NOV, 1985

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	6.6	7.4	7.6	155	187	164
01	02	6.7	7.4	7.6	166	194	171
02	03	6.7	7.4	7.6	154	180	159
03	04	6.4	7.3	7.2	158	177	163
04	05	6.1	6.9	6.9	148	166	153
05	06	6.4	7.1	7.4	147	174	157
06	07	6.4	7.0	7.4	167	203	175
07	08	6.9	7.5	7.9	160	196	164
08	09	7.0	7.6	8.0	169	197	168
09	10	7.5	8.1	8.4	165	195	170
10	11	7.9	8.3	8.6	165	192	169
11	12	7.9	8.5	8.7	139	177	150
12	13	7.8	8.6	8.4	134	169	148
13	14	7.4	8.1	8.1	143	175	150
14	15	7.1	8.1	7.9	136	173	142
15	16	7.1	8.0	7.9	145	193	154
16	17	6.8	7.6	7.8	141	195	152
17	18	6.6	7.7	7.8	148	188	162
18	19	6.8	7.9	7.9	151	190	164
19	20	6.8	7.5	7.7	145	184	154
20	21	7.0	7.7	7.9	140	172	150
21	22	6.5	7.2	7.4	139	177	146
22	23	6.7	7.4	7.6	137	167	143
23	00	6.5	7.4	7.5	148	183	156

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

TABLE C-3

Daily Averages For NOV, 1985

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***
4	15.6	16.9	18.0	210	211	209	2016.4	2537.4	3071.7
5	9.7	10.5	11.2	251	251	249	691.1	864.9	1040.0
6	10.6	11.5	12.2	250	250	248	757.3	963.3	1152.1
7	6.1	7.4	7.3	268	276	271	195.3	312.3	324.8
8	6.1	6.9	6.7	86	85	84	142.2	202.2	192.6
9	10.6	***	11.6	82	***	80	734.9	***	950.4
10	7.6	***	8.4	78	***	76	294.1	***	389.6
11	3.7	***	4.0	65	***	65	42.5	***	56.3
12	3.3	4.5	3.6	252	276	253	37.6	88.8	52.8
13	5.1	6.0	6.1	261	259	255	141.1	206.0	223.2
14	6.9	7.6	8.1	235	230	228	247.3	317.6	376.9
15	14.2	15.9	16.7	204	197	201	1810.9	2581.2	3025.9
16	13.6	15.4	16.4	192	188	192	1770.7	2537.9	3012.9
17	11.6	12.8	13.3	104	100	105	1018.5	1387.2	1535.1
18	5.4	5.8	6.0	55	50	54	167.3	220.9	236.9
19	4.5	5.0	5.1	259	252	253	66.0	89.7	97.8
20	2.6	2.6	2.6	82	82	90	14.6	15.9	15.8
21	3.5	3.6	3.7	59	53	57	40.0	45.5	48.3
22	2.2	2.3	2.4	78	42	36	7.0	8.9	10.4
23	***	***	***	***	***	***	***	***	***
24	7.2	7.9	8.1	85	80	83	278.0	355.8	391.2
25	4.3	4.5	4.6	88	82	86	69.9	83.3	87.8
26	3.9	3.9	3.9	90	83	87	52.0	59.1	60.7
27	3.1	3.1	3.3	5	326	297	37.8	51.5	70.1
28	2.8	2.7	2.7	80	80	85	17.2	17.1	17.0
29	8.6	9.1	9.4	72	68	73	437.4	528.3	583.1
30	4.7	5.0	5.2	74	69	75	93.5	116.7	134.6

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22%	80.46 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

TABLE C-3 (CONTINUED)

Monthly Averages For NOV, 1985

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
NOV	6.9	7.7	7.8	150	183	158	4.31E+2	6.25E+2	6.63E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	17392	14304	17380
Monthly Count:	21600	21600	21600
Percent Recovery:	80.52 %	66.22 %	80.46 %

Hourly Averages For DEC, 1985

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	10.6	12.0	12.5	222	218	223
01	02	10.5	12.0	12.5	221	216	221
02	03	10.2	11.7	12.3	219	214	218
03	04	9.7	11.0	11.6	218	213	217
04	05	10.6	12.0	12.6	213	209	213
05	06	11.6	13.1	13.9	214	208	213
06	07	12.3	14.0	14.8	209	203	208
07	08	12.8	14.5	15.3	208	203	207
08	09	13.3	15.0	15.8	207	202	207
09	10	13.3	15.0	15.8	205	200	205
10	11	14.0	15.7	16.5	205	199	205
11	12	14.0	15.5	16.2	205	200	205
12	13	13.6	15.0	15.7	210	205	209
13	14	12.4	13.7	14.4	213	208	212
14	15	11.5	12.8	13.5	216	210	215
15	16	10.5	11.8	12.5	218	212	217
16	17	10.2	11.5	12.1	219	214	219
17	18	9.5	10.9	11.5	218	214	218
18	19	9.8	11.0	11.6	211	207	212
19	20	9.6	10.9	11.4	215	210	215
20	21	9.9	11.3	11.9	220	214	219
21	22	10.0	11.5	12.1	218	212	217
22	23	10.2	11.6	12.2	221	216	221
23	00	10.2	11.6	12.2	219	214	218

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Daily Averages For DEC, 1985

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***
3	13.4	14.9	15.7	214	210	214	1388.4	1905.1	2184.6
4	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***
12	9.8	10.7	11.1	210	206	210	645.2	857.1	938.0
13	19.1	21.3	22.1	193	188	193	4108.8	5729.7	6496.3
14	14.2	16.0	16.8	203	199	203	2239.7	3199.3	3769.1
15	13.3	15.1	16.0	215	210	215	1750.6	2534.8	2993.7
16	12.8	14.2	14.9	217	212	218	1264.2	1735.5	1987.5
17	8.3	9.3	9.8	245	241	246	485.5	681.7	786.6
18	12.6	14.3	14.9	207	202	208	1322.4	1896.6	2167.6
19	11.2	12.6	13.1	210	205	210	898.9	1261.4	1431.3
20	11.8	13.4	14.2	205	199	203	1025.3	1493.2	1757.8
21	14.9	16.9	18.0	205	200	204	2136.2	3128.4	3735.4
22	13.2	15.0	15.7	204	200	205	1567.8	2249.4	2598.7
23	5.7	6.4	6.7	276	274	278	208.9	304.9	350.2
24	5.9	7.2	7.8	251	244	247	156.4	257.4	314.4
25	11.3	12.9	13.6	214	208	213	1063.7	1531.7	1805.4
26	5.4	6.0	6.2	257	258	265	155.8	218.2	234.8
27	6.8	7.7	8.0	245	240	244	244.4	349.5	388.6
28	11.5	12.9	13.6	208	202	206	1037.6	1461.9	1727.0
29	13.6	15.4	16.3	212	205	209	1751.8	2503.1	3008.9
30	9.3	10.6	11.2	238	234	239	612.3	883.2	1030.6
31	14.9	16.7	17.7	204	198	202	2097.4	2958.5	3525.8

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Monthly Averages For DEC, 1985

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
DEC	11.3	12.7	13.4	213	209	213	1.24E+3	1.77E+3	2.06E+3

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	13868	13868	13868
Monthly Count:	22320	22320	22320
Percent Recovery:	62.13 %	62.13 %	62.13 %

Hourly Averages For MAR, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	7.1	8.4	8.8	248	245	245
01	02	6.6	8.0	9.4	247	239	230
02	03	5.2	6.0	8.1	240	238	234
03	04	7.8	9.1	10.1	230	229	231
04	05	9.1	11.1	11.0	230	227	229
05	06	9.5	10.9	11.3	226	224	226
06	07	9.1	10.4	10.8	229	226	228
07	08	8.6	9.8	10.3	226	222	224
08	09	11.2	12.3	12.7	218	215	217
09	10	10.8	11.8	12.1	236	234	235
10	11	10.8	11.8	12.0	241	239	240
11	12	10.9	12.0	12.2	248	245	246
12	13	12.0	13.2	13.5	247	244	245
13	14	11.8	13.0	13.3	248	245	246
14	15	10.6	11.6	11.9	246	244	244
15	16	11.2	12.3	12.6	240	238	239
16	17	10.7	11.8	12.0	228	225	225
17	18	10.2	11.3	11.6	219	215	217
18	19	8.7	10.0	10.4	218	216	218
19	20	7.9	9.1	9.5	218	217	219
20	21	6.7	7.8	8.1	222	220	222
21	22	6.0	6.9	7.3	230	229	232
22	23	5.5	6.3	6.6	282	276	276
23	00	6.8	8.1	8.6	261	256	256

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Daily Averages For MAR, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***
3	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***
14	***	***	***	***	***	***	***	***	***
15	***	***	***	***	***	***	***	***	***
16	***	***	***	***	***	***	***	***	***
17	***	***	***	***	***	***	***	***	***
18	***	***	***	***	***	***	***	***	***
19	***	***	***	***	***	***	***	***	***
20	***	***	***	***	***	***	***	***	***
21	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***
28	12.2	13.7	14.2	223	219	221	1082.0	1534.1	1699.2
29	9.3	10.7	11.1	247	243	244	524.3	773.9	860.2
30	9.9	11.2	11.6	220	218	219	740.9	1025.3	1119.4
31	5.9	6.6	7.0	253	252	253	219.2	300.9	336.9

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Monthly Averages For MAR, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
MAR	9.0	10.1	10.6	235	232	233	5.84E+2	8.29E+2	9.30E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	2547	2540	2477
Monthly Count:	22320	22320	22320
Percent Recovery:	11.41 %	11.38 %	11.10 %

Hourly Averages For APR, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	5.2	6.0	6.3	219	220	223
01	02	5.3	6.1	6.3	225	224	227
02	03	5.3	6.2	6.4	210	213	216
03	04	5.4	6.2	6.5	203	206	209
04	05	5.5	6.3	6.5	211	217	222
05	06	5.0	5.6	5.9	220	225	229
06	07	5.2	5.8	6.3	233	233	234
07	08	5.8	6.3	6.7	233	231	233
08	09	6.5	7.0	7.2	236	235	236
09	10	6.2	6.7	6.9	243	241	242
10	11	6.3	6.8	7.0	264	261	262
11	12	7.1	7.8	7.9	264	262	261
12	13	7.3	8.0	8.1	264	263	262
13	14	7.2	7.9	8.0	274	271	270
14	15	7.2	7.9	8.0	266	263	262
15	16	6.7	7.4	7.5	262	260	260
16	17	7.3	8.0	8.2	241	238	238
17	18	7.4	8.2	8.4	203	200	201
18	19	6.8	7.7	8.0	184	182	186
19	20	6.9	7.9	8.2	179	179	183
20	21	7.0	8.1	8.4	176	176	178
21	22	6.7	7.8	8.1	185	182	183
22	23	6.4	7.4	7.9	199	198	199
23	00	5.5	6.3	6.6	205	208	212

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Daily Averages For APR, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	7.4	8.3	8.6	195	191	192	402.9	559.2	615.5
2	7.1	8.0	8.3	344	340	341	301.5	446.3	486.6
3	6.4	7.2	7.3	66	63	65	239.1	329.5	348.0
4	4.0	4.4	4.6	239	239	240	56.9	74.9	78.0
5	6.7	7.5	7.8	207	204	205	237.4	341.1	381.1
6	5.9	6.7	6.8	248	245	246	159.6	229.9	241.6
7	7.0	7.7	7.9	71	68	69	379.6	537.6	579.0
8	6.9	7.8	8.0	83	80	81	243.0	354.0	371.6
9	4.7	5.2	5.3	127	130	134	112.6	161.9	173.8
10	8.7	10.5	11.0	195	190	192	366.9	629.3	735.4
11	10.4	11.8	12.0	71	68	69	638.2	911.5	977.6
12	7.6	8.3	8.4	60	56	57	286.3	365.0	377.2
13	4.5	5.0	5.1	301	297	296	80.9	111.0	119.7
14	3.9	4.4	4.7	125	134	142	67.7	103.7	119.3
15	2.7	2.8	2.9	116	101	97	17.1	22.2	24.7
16	4.6	5.1	5.2	214	215	219	116.3	167.8	183.9
17	4.8	5.4	5.6	229	228	231	79.6	112.3	118.1
18	7.8	9.0	9.3	243	241	243	279.1	415.6	463.8
19	10.3	11.6	12.0	247	244	245	632.7	886.2	973.1
20	9.3	10.4	10.7	252	249	250	488.5	670.8	728.2
21	7.5	8.8	9.1	226	223	224	274.3	444.3	506.6
22	9.8	11.3	11.8	213	209	210	800.2	1238.7	1433.2
23	5.7	6.3	6.4	245	245	247	150.8	205.8	224.1
24	8.2	9.4	9.6	87	84	85	330.1	481.1	518.1
25	5.7	6.2	6.3	104	99	102	127.7	162.4	166.5
26	3.6	4.0	4.4	77	135	180	39.6	54.5	66.3
27	5.8	6.5	6.9	224	222	225	179.2	257.8	294.6
28	7.1	8.1	8.3	249	247	248	288.4	411.1	446.7
29	4.4	4.9	5.0	237	239	241	82.1	117.9	127.3
30	6.8	7.7	7.9	261	259	261	196.7	285.6	307.1

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Monthly Averages For APR, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
APR	6.3	7.0	7.3	224	224	225	2.42E+2	3.47E+2	3.83E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	18969	19029	18919
Monthly Count:	21600	21600	21600
Percent Recovery:	87.82 %	88.10 %	87.59 %

Hourly Averages For MAY, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	5.1	6.0	6.3	205	209	213
01	02	4.9	5.8	6.2	213	215	217
02	03	5.2	5.4	6.2	214	221	221
03	04	4.8	4.6	6.0	214	223	220
04	05	5.0	4.4	5.8	219	239	226
05	06	5.2	4.7	6.2	213	232	222
06	07	6.2	5.6	7.2	207	210	210
07	08	6.4	5.6	7.1	227	236	223
08	09	6.5	6.0	7.3	233	242	229
09	10	6.5	6.0	7.3	241	252	238
10	11	6.5	6.0	7.3	251	266	247
11	12	7.1	6.9	8.0	260	273	257
12	13	8.0	8.7	9.0	255	252	253
13	14	8.0	8.9	9.1	251	247	246
14	15	8.1	8.8	9.0	253	249	248
15	16	8.6	9.5	9.7	242	239	239
16	17	8.4	9.2	9.4	238	235	236
17	18	7.9	8.8	9.0	245	241	241
18	19	6.3	7.1	7.4	253	249	248
19	20	5.6	6.5	6.8	183	186	189
20	21	5.9	7.1	7.4	155	150	152
21	22	5.7	6.6	6.9	173	171	173
22	23	4.9	5.6	5.8	181	185	191
23	00	5.1	5.9	6.4	191	194	199

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Daily Averages For MAY, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	5.4	6.0	6.1	78	75	77	161.2	229.1	243.4
2	4.1	4.4	4.5	118	111	113	74.4	98.2	103.2
3	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***
12	9.9	11.3	11.7	251	247	246	563.3	830.8	937.1
13	14.1	13.8	16.6	211	213	209	1996.3	2253.0	3241.5
14	9.9	11.3	11.7	253	250	251	589.3	860.7	963.2
15	6.4	7.4	7.8	267	266	267	179.4	268.2	304.4
16	2.8	2.9	3.1	267	280	284	18.8	26.6	30.6
17	7.1	8.1	8.6	236	234	234	265.5	385.7	435.5
18	5.5	6.1	6.3	231	232	233	163.7	230.8	249.6
19	2.9	3.1	3.2	144	176	193	29.6	40.5	43.6
20	4.2	4.5	4.6	208	213	216	78.3	106.3	115.8
21	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***
24	3.0	3.2	3.2	69	52	45	23.7	33.5	33.2
25	4.8	5.5	5.6	73	71	72	118.3	181.1	187.1
26	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***
31	***	***	***	***	***	***	***	***	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Monthly Averages For MAY, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
MAY	6.3	6.7	7.3	228	233	228	3.50E+2	3.92E+2	5.68E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	8134	7781	8075
Monthly Count:	22320	22320	22320
Percent Recovery:	36.44 %	34.86 %	36.18 %

Hourly Averages For JUN, 1986

Hour >= <	Wind Speed (M/S)			Wind Direction (Deg)		
	9M	30M	46M	9M	30M	46M
00 01	4.0	4.6	4.8	197	200	204
01 02	4.0	4.6	4.8	209	210	214
02 03	4.4	5.1	5.3	188	190	193
03 04	4.5	5.2	5.4	198	201	205
04 05	4.5	5.2	5.6	197	194	197
05 06	4.9	5.6	5.9	207	204	205
06 07	5.2	5.9	6.1	206	202	202
07 08	6.0	6.5	6.7	207	202	204
08 09	6.1	6.6	6.7	214	210	212
09 10	5.3	5.6	5.7	225	222	223
10 11	4.7	5.1	5.2	240	237	238
11 12	4.9	5.3	5.4	267	263	264
12 13	5.3	5.7	5.8	267	264	264
13 14	5.7	6.2	6.3	255	253	254
14 15	6.3	6.8	6.9	240	238	240
15 16	5.9	6.5	6.6	256	254	254
16 17	5.8	6.4	6.5	253	250	250
17 18	5.7	6.3	6.5	211	207	210
18 19	5.6	6.3	6.6	189	186	188
19 20	5.6	6.6	6.9	180	182	187
20 21	5.3	6.3	6.6	167	169	172
21 22	5.4	6.4	6.7	176	181	186
22 23	4.9	5.6	5.9	197	196	198
23 00	3.9	4.6	4.8	218	215	218

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Daily Averages For JUN, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	6.6	7.5	7.7	143	147	152	167.8	262.3	296.6
2	6.6	7.4	7.6	203	199	200	214.5	305.6	331.2
3	5.2	6.0	6.3	208	201	201	176.4	288.7	335.4
4	5.0	5.5	5.7	65	62	64	114.7	159.3	169.0
5	4.6	5.1	5.2	229	225	227	83.9	121.2	127.2
6	4.8	5.4	5.6	244	241	242	84.6	120.6	130.7
7	4.3	4.7	4.9	101	97	99	97.7	139.0	149.8
8	5.6	6.2	6.3	251	249	251	157.4	215.6	230.9
9	3.7	4.0	4.1	216	213	214	32.1	43.5	44.9
10	3.8	4.2	4.3	225	224	224	43.0	60.2	65.3
11	7.3	8.2	8.5	244	240	241	246.5	353.2	387.4
12	6.4	7.2	7.3	78	75	76	196.8	288.1	303.0
13	5.8	6.5	6.7	131	130	133	183.4	270.2	293.1
14	5.7	6.5	6.8	204	202	204	312.6	500.5	588.2
15	6.5	7.5	7.7	239	235	237	159.7	249.8	271.3
16	4.3	5.1	5.2	99	97	97	65.2	106.9	116.2
17	4.1	4.6	4.9	189	190	195	62.3	87.5	99.2
18	5.8	6.5	6.7	197	195	197	179.6	270.9	305.5
19	4.3	4.9	5.0	343	340	339	64.7	95.9	104.9
20	4.4	5.0	5.1	263	262	265	67.5	97.0	104.8
21	5.6	6.3	6.5	252	252	254	172.9	237.3	255.5
22	5.1	5.6	5.8	227	227	228	140.4	189.9	206.7
23	3.1	3.2	3.5	162	189	210	49.2	71.3	83.6
24	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***
28	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Monthly Averages For JUN, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
JUN	5.2	5.8	6.0	212	210	212	1.35E+2	1.98E+2	2.18E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	15113	15074	15019
Monthly Count:	21600	21600	21600
Percent Recovery:	69.97 %	69.79 %	69.53 %

Hourly Averages For JUL, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	5.1	5.9	6.1	188	190	193
01	02	4.5	5.2	5.4	213	213	215
02	03	4.4	5.1	5.3	220	222	223
03	04	4.5	5.1	5.4	217	220	221
04	05	4.7	5.4	5.7	210	210	213
05	06	4.9	5.6	5.6	214	216	219
06	07	4.6	5.2	5.4	222	217	216
07	08	5.1	5.6	5.9	215	211	211
08	09	5.4	5.8	6.0	211	207	208
09	10	5.6	6.0	6.1	224	221	222
10	11	6.0	6.5	6.6	225	222	223
11	12	6.2	6.8	6.8	246	243	244
12	13	6.4	7.0	7.1	264	262	263
13	14	5.9	6.5	6.6	268	264	264
14	15	6.1	6.7	6.9	249	246	247
15	16	6.0	6.6	6.7	210	208	210
16	17	5.8	6.4	6.6	234	231	232
17	18	6.3	7.0	7.2	220	217	220
18	19	5.9	6.7	6.9	219	215	217
19	20	5.7	6.7	7.0	191	189	193
20	21	5.7	6.6	6.9	189	188	191
21	22	5.8	6.7	7.1	187	189	192
22	23	5.8	6.7	7.1	189	189	192
23	00	5.3	6.2	6.5	181	181	184

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	20713	20532	20612
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	20713	20532	20611
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Daily Averages For JUL, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	3.3	3.6	3.7	249	256	260	25.2	32.0	35.6
2	4.0	4.4	4.5	207	208	210	62.1	87.1	94.3
3	4.8	5.5	5.7	260	256	256	110.1	164.4	185.8
4	5.5	6.2	6.4	73	69	70	165.4	241.6	263.5
5	7.9	9.0	9.2	264	260	261	340.0	497.5	540.9
6	3.3	3.7	3.9	102	17	329	31.0	46.6	53.4
7	4.7	5.2	5.3	193	195	199	116.9	164.1	175.8
8	4.4	4.8	4.9	113	114	122	89.0	132.3	144.3
9	5.2	5.9	6.1	218	215	216	112.6	158.8	174.0
10	5.7	6.4	6.7	242	238	240	112.6	162.6	180.4
11	5.5	6.3	6.5	234	234	238	131.6	191.4	212.8
12	5.0	5.7	5.8	266	266	268	104.5	151.4	160.4
13	4.1	4.5	4.6	285	285	284	50.0	72.9	79.1
14	3.3	3.6	3.7	52	41	40	43.9	67.4	75.9
15	3.9	4.4	4.6	76	75	78	57.8	91.9	105.3
16	5.8	6.5	6.7	81	79	82	170.5	243.1	265.0
17	7.3	8.4	8.8	243	239	239	266.2	412.5	469.3
18	3.3	3.7	3.8	262	264	266	39.8	57.3	64.2
19	4.2	4.6	4.6	80	78	79	59.2	86.0	90.8
20	4.4	4.9	5.1	77	77	80	87.8	136.0	143.6
21	4.4	4.9	4.9	72	72	73	93.4	136.1	140.9
22	5.1	5.6	5.9	208	207	208	148.0	214.2	243.0
23	5.4	6.1	6.4	243	238	238	159.4	235.5	270.2
24	6.4	7.3	7.7	204	201	202	242.2	386.6	441.8
25	9.1	10.3	10.7	199	196	197	516.1	753.0	851.8
26	9.0	10.2	10.5	202	198	199	465.8	690.6	771.3
27	10.1	11.3	11.7	199	196	197	630.3	889.7	975.7
28	9.5	10.7	11.0	211	208	209	576.0	830.3	929.4
29	7.5	8.5	8.7	206	203	205	329.2	483.3	532.7
30	4.0	4.3	4.4	267	271	274	66.6	88.5	88.9
31	2.7	2.8	3.0	77	69	70	12.9	19.2	24.0

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	20713	20532	20612
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	20713	20532	20611
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	20713	20532	20612
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Monthly Averages For JUL, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
JUL	5.5	6.2	6.4	214	212	214	1.80E+2	2.64E+2	2.93E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	20713	20532	20612
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	20713	20532	20611
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	20713	20532	20612
Monthly Count:	22320	22320	22320
Percent Recovery:	92.80 %	91.99 %	92.35 %

Hourly Averages For AUG, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	4.3	5.0	5.4	177	168	168
01	02	4.4	4.9	5.2	165	169	173
02	03	3.7	4.1	4.3	144	158	162
03	04	3.2	3.5	3.6	156	175	185
04	05	3.4	3.7	3.8	163	177	188
05	06	3.7	4.0	4.2	167	165	169
06	07	3.4	3.9	4.0	171	175	179
07	08	3.9	4.1	4.1	206	199	200
08	09	4.6	4.9	5.0	197	193	193
09	10	4.3	4.5	4.6	206	203	203
10	11	4.1	4.4	4.6	193	189	188
11	12	4.5	4.8	4.9	187	183	183
12	13	5.3	5.7	5.8	131	128	129
13	14	5.7	6.2	6.3	151	149	152
14	15	5.6	6.1	6.2	181	179	181
15	16	5.4	5.9	5.9	315	302	294
16	17	5.4	5.9	6.0	33	30	31
17	18	5.4	6.0	6.1	47	43	43
18	19	5.4	6.1	6.3	108	98	98
19	20	5.4	6.2	6.6	103	92	90
20	21	4.9	5.7	5.9	112	104	103
21	22	4.6	5.5	5.8	131	127	127
22	23	4.6	5.4	5.6	164	154	153
23	00	4.6	5.5	5.9	172	164	157

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Daily Averages For AUG, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	3.8	4.2	4.3	75	70	74	52.3	82.6	92.5
2	5.1	5.8	6.0	75	73	75	108.0	162.7	179.8
3	3.5	3.7	3.8	91	99	108	47.4	63.0	66.8
4	9.4	10.7	11.0	203	198	200	504.5	765.0	823.8
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***
13	***	***	***	***	***	***	***	***	***
14	***	***	***	***	***	***	***	***	***
15	***	***	***	***	***	***	***	***	***
16	***	***	***	***	***	***	***	***	***
17	***	***	***	***	***	***	***	***	***
18	***	***	***	***	***	***	***	***	***
19	***	***	***	***	***	***	***	***	***
20	***	***	***	***	***	***	***	***	***
21	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***
23	7.4	8.3	8.4	203	200	202	362.8	504.2	548.6
24	5.6	6.1	6.1	219	218	219	155.2	212.4	221.2
25	4.2	4.7	5.0	132	122	119	68.9	112.7	130.5
26	4.1	4.7	4.8	95	90	90	54.9	85.1	91.2
27	3.4	3.8	4.1	79	75	74	35.9	58.0	67.9
28	3.6	4.0	4.1	87	79	78	38.5	58.0	63.4
29	5.3	5.8	6.0	224	224	225	141.8	187.2	198.7
30	4.1	4.7	4.9	258	257	258	92.1	136.0	152.3
31	3.4	3.7	3.7	262	277	286	34.4	44.8	44.6

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Monthly Averages For AUG, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
AUG	4.6	5.1	5.3	154	152	154	1.10E+2	1.59E+2	1.74E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	8282	8199	8170
Monthly Count:	22320	22320	22320
Percent Recovery:	37.11 %	36.73 %	36.60 %

Hourly Averages For SEP, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	5.5	6.4	5.8	159	161	92
01	02	5.5	6.4	5.9	177	179	132
02	03	5.6	6.4	5.7	198	196	179
03	04	5.5	6.3	5.3	198	197	142
04	05	5.7	6.6	5.7	210	210	240
05	06	5.6	6.5	5.5	203	203	154
06	07	5.7	6.7	6.0	213	212	201
07	08	5.7	6.3	5.1	207	204	261
08	09	5.6	6.1	5.3	212	210	306
09	10	5.7	6.3	5.7	212	208	256
10	11	5.8	6.3	6.3	206	202	126
11	12	6.3	6.9	6.7	198	191	81
12	13	6.4	6.9	6.5	189	181	64
13	14	6.4	6.9	6.6	228	229	64
14	15	6.7	7.4	7.3	225	222	69
15	16	7.0	7.7	8.4	194	191	84
16	17	6.7	7.5	7.9	194	191	82
17	18	6.2	7.0	7.5	133	134	69
18	19	5.1	5.9	6.0	137	139	89
19	20	5.6	6.5	6.0	145	146	85
20	21	5.9	6.8	6.3	138	138	85
21	22	5.8	6.7	5.8	136	137	90
22	23	5.6	6.5	5.7	135	137	92
23	00	5.6	6.5	5.7	166	168	114

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Daily Averages For SEP, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	2.7	2.8	2.9	187	195	202	20.5	25.1	25.5
2	5.4	6.5	7.0	232	230	232	130.2	232.0	276.3
3	7.4	8.5	8.8	228	225	227	266.7	400.8	436.9
4	3.1	3.3	3.4	344	1	11	26.2	36.5	39.4
5	6.2	6.9	7.0	70	67	68	214.1	306.4	306.4
6	9.5	10.8	10.8	79	77	79	511.2	730.1	720.0
7	3.9	4.3	4.5	85	82	84	40.8	54.7	60.0
8	4.0	4.4	4.5	180	186	192	78.4	109.0	111.0
9	4.7	5.2	5.4	247	246	248	73.1	108.3	116.6
10	5.9	6.9	7.1	245	243	245	138.5	211.5	232.3
11	6.2	7.2	7.3	258	256	257	188.6	282.5	301.7
12	7.9	9.0	9.2	68	66	68	379.2	551.7	577.3
13	6.5	7.3	7.4	73	72	74	186.2	264.0	269.5
14	4.6	5.1	5.3	62	61	64	90.0	135.2	140.6
15	4.7	5.1	5.2	84	81	82	67.4	92.6	92.5
16	3.2	3.5	2.7	85	81	252	31.6	45.2	15.7
17	6.4	7.1	***	65	64	***	283.6	407.6	***
18	6.8	7.7	***	79	77	***	232.7	328.0	***
19	3.9	4.3	***	71	69	***	62.4	92.1	***
20	4.2	4.6	***	84	81	***	92.0	130.9	***
21	4.5	5.0	***	231	230	***	77.5	106.2	***
22	7.6	8.9	***	238	234	***	289.0	433.4	***
23	9.1	10.4	***	208	205	***	519.2	737.2	***
24	4.3	4.9	***	228	226	***	81.4	124.6	***
25	9.4	10.9	***	264	261	***	461.9	698.7	***
26	10.5	11.8	***	211	208	***	751.6	1054.3	***
27	7.4	8.6	***	200	196	***	256.9	406.9	***
28	7.1	7.9	***	233	231	***	226.0	317.9	***
29	8.9	10.3	***	223	220	***	449.7	691.0	***
30	4.1	4.7	***	220	216	***	50.1	78.8	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Monthly Averages For SEP, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
SEP	5.9	6.6	6.2	183	183	88	1.98E+2	2.90E+2	2.34E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	19617	19520	10088
Monthly Count:	21600	21600	21600
Percent Recovery:	90.82 %	90.37 %	46.70 %

Hourly Averages For OCT, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	4.6	5.2	5.2	202	193	200
01	02	4.6	5.3	6.0	207	218	207
02	03	5.2	6.0	7.3	205	238	202
03	04	5.5	6.4	8.1	212	270	205
04	05	6.6	7.6	8.9	211	259	206
05	06	7.1	8.4	10.1	210	63	206
06	07	7.0	8.1	9.3	209	278	202
07	08	6.9	7.8	8.5	211	330	204
08	09	7.3	8.1	8.9	209	125	204
09	10	7.3	8.0	8.5	206	223	201
10	11	7.4	8.0	8.6	206	256	201
11	12	7.1	7.7	7.9	210	20	201
12	13	6.8	7.5	7.4	222	***	209
13	14	7.0	7.6	7.6	243	***	226
14	15	7.4	8.0	8.0	251	***	233
15	16	6.8	7.4	7.3	248	***	236
16	17	6.2	7.0	6.9	239	***	231
17	18	5.2	6.2	6.1	211	***	210
18	19	5.0	5.8	5.8	209	***	211
19	20	4.6	5.3	5.3	211	***	216
20	21	4.2	5.0	5.0	211	***	209
21	22	4.3	4.9	4.8	214	***	217
22	23	4.4	4.9	4.6	197	***	213
23	00	4.4	4.9	4.5	202	***	213

Note: Periods with no data are denoted by an asterisk(*).

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	20479	20386	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	91.34 %	59.35 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	20479	327	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	1.47 %	59.21 %

Daily Averages For OCT, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	3.3	3.6	***	44	239	***	28.1	40.2	***
2	7.4	8.4	***	84	***	***	231.6	332.4	***
3	6.1	7.0	***	243	***	***	172.0	257.3	***
4	7.1	8.2	***	221	***	***	257.6	382.8	***
5	5.6	6.4	***	238	***	***	127.3	183.2	***
6	8.0	9.1	***	223	***	***	330.4	486.5	***
7	6.2	7.1	***	219	***	***	187.0	285.7	***
8	5.1	5.7	***	72	***	***	136.2	190.4	***
9	7.1	7.9	***	241	***	***	329.5	456.0	***
10	3.6	4.0	***	10	***	***	59.6	95.4	***
11	2.4	2.5	2.9	153	***	206	9.0	11.7	15.8
12	7.1	8.1	8.4	229	***	222	249.4	365.7	409.2
13	8.2	9.3	9.6	227	***	219	444.9	657.3	722.2
14	6.2	7.1	7.4	213	***	205	257.6	410.5	471.7
15	6.4	7.2	7.6	213	***	208	299.3	434.9	488.8
16	6.7	7.3	7.5	218	***	210	281.7	375.3	404.8
17	5.5	5.8	6.0	198	***	197	152.8	204.5	214.8
18	4.2	4.7	5.2	82	***	72	72.0	111.3	137.1
19	3.8	4.7	5.2	77	***	70	47.8	103.1	123.3
20	3.0	3.1	3.3	66	***	63	24.3	32.9	39.1
21	4.9	5.3	5.5	230	***	227	97.3	133.1	145.3
22	3.8	4.1	4.4	82	***	72	58.9	87.1	104.1
23	3.3	3.5	3.5	94	***	71	38.0	53.3	52.5
24	6.4	7.2	7.4	221	***	218	251.1	352.7	383.7
25	6.3	7.1	7.6	214	***	210	256.3	398.5	459.9
26	10.4	12.1	12.7	205	***	196	725.0	1128.2	1297.8
27	11.1	12.8	13.4	217	***	211	1076.4	1609.0	1821.5
28	6.5	7.4	7.6	248	***	241	175.0	253.0	271.8
29	3.2	3.5	3.5	84	***	76	23.1	31.3	32.3
30	6.3	7.3	7.5	249	***	244	197.4	297.8	334.6
31	5.1	5.8	5.9	139	***	143	103.8	150.8	157.3

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	20479	20386	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	91.34 %	59.35 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	20479	327	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	1.47 %	59.21 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	20479	20386	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	91.34 %	59.35 %

Monthly Averages For OCT, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
OCT	5.9	6.7	7.1	214	239	208	2.26E+2	3.34E+2	4.21E+2

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	20479	20386	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	91.34 %	59.35 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	20479	327	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	1.47 %	59.21 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	20479	20386	13216
Monthly Count:	22320	22320	22320
Percent Recovery:	91.75 %	91.34 %	59.35 %

Hourly Averages For NOV, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	7.7	8.1	9.0	212	***	206
01	02	7.5	8.2	9.0	215	***	211
02	03	6.6	7.1	7.9	213	***	210
03	04	8.3	8.8	10.0	214	***	208
04	05	8.3	8.9	9.9	213	***	209
05	06	9.0	9.7	10.9	216	***	212
06	07	9.6	10.5	11.8	218	***	209
07	08	9.5	10.2	11.7	214	***	206
08	09	9.9	10.4	11.7	214	***	208
09	10	10.2	10.4	11.8	220	***	212
10	11	11.9	12.1	13.9	220	***	213
11	12	12.0	12.3	13.9	224	***	216
12	13	11.8	12.6	13.7	223	***	215
13	14	12.1	12.9	14.0	227	***	219
14	15	10.9	11.7	12.6	232	***	224
15	16	9.5	10.2	11.1	238	***	231
16	17	8.8	9.8	10.5	237	***	231
17	18	8.3	9.2	9.9	227	***	223
18	19	8.8	9.6	10.5	219	***	215
19	20	8.6	9.3	10.4	220	***	216
20	21	8.1	8.8	9.6	221	***	216
21	22	7.8	8.3	9.2	225	***	217
22	23	7.5	8.4	9.1	226	***	216
23	00	8.1	9.1	9.6	219	***	211

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	8463	10213	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	47.28 %	39.18 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	8463	0	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	00.00 %	39.18 %

Daily Averages For NOV, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	4.6	5.2	5.4	241	***	236	95.6	142.5	159.4
2	9.5	10.8	11.2	226	***	219	607.2	883.8	980.3
3	4.5	5.2	5.3	246	***	243	62.2	102.5	111.8
4	7.7	8.9	9.3	235	***	228	280.9	425.3	477.0
5	9.7	11.1	11.6	215	***	209	852.2	1229.1	1381.7
6	10.6	12.2	12.6	75	***	68	706.9	1069.9	1169.0
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	***	***	***	***	***	***	***	***
11	***	***	***	***	***	***	***	***	***
12	***	***	***	***	***	***	***	***	***
13	16.6	19.1	19.8	200	***	192	2632.8	3950.4	4445.5
14	9.2	10.6	11.0	175	***	171	638.0	1013.8	1170.3
15	8.4	9.7	10.2	250	***	242	461.5	686.9	795.0
16	7.5	8.6	9.1	244	***	235	363.7	559.3	635.3
17	5.6	6.3	6.5	269	***	261	184.8	260.0	286.9
18	12.9	14.3	14.7	205	***	199	2225.8	3178.1	3566.0
19	8.9	10.3	10.8	253	***	244	466.6	729.7	838.9
20	19.5	22.1	23.0	207	***	199	4328.4	6316.7	7090.7
21	***	***	***	***	***	***	***	***	***
22	***	***	***	***	***	***	***	***	***
23	***	***	***	***	***	***	***	***	***
24	***	***	***	***	***	***	***	***	***
25	***	***	***	***	***	***	***	***	***
26	***	***	***	***	***	***	***	***	***
27	***	***	***	***	***	***	***	***	***
28	***	11.9	***	***	***	***	***	1317.9	***
29	***	2.8	***	***	***	***	***	21.8	***
30	***	8.5	***	***	***	***	***	442.2	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	8463	10213	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	47.28 %	39.18 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	8463	0	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	00.00 %	39.18 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	8463	10213	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	47.28 %	39.18 %

Monthly Averages For NOV, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
NOV	9.2	9.9	10.9	222	0	215	8.73E+2	1.15E+3	1.45E+3

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	8463	10213	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	47.28 %	39.18 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	8463	0	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	00.00 %	39.18 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	8463	10213	8463
Monthly Count:	21600	21600	21600
Percent Recovery:	39.18 %	47.28 %	39.18 %

Hourly Averages For DEC, 1986

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	***	11.8	***	***	***	***
01	02	***	11.8	***	***	***	***
02	03	***	11.8	***	***	***	***
03	04	***	11.6	***	***	***	***
04	05	***	11.9	***	***	***	***
05	06	***	12.2	***	***	***	***
06	07	***	12.3	***	***	***	***
07	08	***	12.7	***	***	***	***
08	09	***	12.7	***	***	***	***
09	10	***	13.1	***	***	***	***
10	11	***	13.0	***	***	***	***
11	12	***	12.8	***	***	***	***
12	13	***	12.0	***	***	***	***
13	14	***	11.2	***	***	***	***
14	15	***	10.4	***	***	***	***
15	16	***	9.9	***	***	***	***
16	17	***	9.6	***	***	***	***
17	18	***	9.8	***	***	***	***
18	19	***	9.5	***	***	***	***
19	20	***	9.7	***	***	***	***
20	21	***	10.1	***	***	***	***
21	22	***	10.4	***	***	***	***
22	23	***	10.4	***	***	***	***
23	00	***	10.9	***	***	***	***

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	0	20655	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	91.40 %	00.00 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Daily Averages For DEC, 1986

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	17.2	***	***	***	***	***	3695.4	***
2	***	2.7	***	***	***	***	***	15.9	***
3	***	4.1	***	***	***	***	***	96.1	***
4	***	7.7	***	***	***	***	***	498.9	***
5	***	9.1	***	***	***	***	***	590.5	***
6	***	3.6	***	***	***	***	***	44.2	***
7	***	7.7	***	***	***	***	***	343.8	***
8	***	5.9	***	***	***	***	***	218.6	***
9	***	8.2	***	***	***	***	***	751.2	***
10	***	16.1	***	***	***	***	***	2595.0	***
11	***	17.9	***	***	***	***	***	3336.2	***
12	***	14.8	***	***	***	***	***	2322.2	***
13	***	15.5	***	***	***	***	***	2668.1	***
14	***	12.4	***	***	***	***	***	1612.9	***
15	***	8.6	***	***	***	***	***	482.5	***
16	***	6.8	***	***	***	***	***	278.9	***
17	***	13.4	***	***	***	***	***	1432.0	***
18	***	11.6	***	***	***	***	***	1171.4	***
19	***	9.1	***	***	***	***	***	503.1	***
20	***	8.9	***	***	***	***	***	431.8	***
21	***	14.7	***	***	***	***	***	1985.6	***
22	***	18.0	***	***	***	***	***	3491.0	***
23	***	11.5	***	***	***	***	***	1113.9	***
24	***	11.4	***	***	***	***	***	994.5	***
25	***	10.7	***	***	***	***	***	974.2	***
26	***	17.0	***	***	***	***	***	3104.0	***
27	***	14.8	***	***	***	***	***	1904.8	***
28	***	14.6	***	***	***	***	***	1867.2	***
29	***	17.8	***	***	***	***	***	3275.4	***
30	***	10.6	***	***	***	***	***	799.8	***
31	***	7.9	***	***	***	***	***	315.2	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	0	20655	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	92.54 %	00.00 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	0	20655	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	92.54 %	00.00 %

Monthly Averages For DEC, 1986

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
DEC	***	11.3	***	***	***	***	***	1.39E+3	***

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	0	20655	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	92.54 %	00.00 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	0	20655	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	92.54 %	00.00 %

Hourly Averages For JAN, 1987

Hour		Wind Speed (M/S)			Wind Direction (Deg)		
>=	<	9M	30M	46M	9M	30M	46M
00	01	***	10.5	***	***	***	***
01	02	***	10.5	***	***	***	***
02	03	***	12.0	***	***	***	***
03	04	***	11.1	***	***	***	***
04	05	***	10.2	***	***	***	***
05	06	***	11.2	***	***	***	***
06	07	***	11.2	***	***	***	***
07	08	***	10.9	***	***	***	***
08	09	***	10.9	***	***	***	***
09	10	***	10.8	***	***	***	***
10	11	***	10.5	***	***	***	***
11	12	***	10.6	***	***	***	***
12	13	***	11.1	***	***	***	***
13	14	***	10.7	***	***	***	***
14	15	***	10.2	***	***	***	***
15	16	***	10.2	***	***	***	***
16	17	***	10.7	***	***	***	***
17	18	***	10.2	***	***	***	***
18	19	***	10.6	***	***	***	***
19	20	***	10.7	***	***	***	***
20	21	***	10.5	***	***	***	***
21	22	***	10.8	***	***	***	***
22	23	***	10.6	***	***	***	***
23	00	***	11.0	***	***	***	***

Hourly Wind Speed Statistics

	9M	30M	46M
Total Count:	0	11173	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	50.06 %	00.00 %

Hourly Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Daily Averages For JAN, 1987

Day	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
1	***	15.5	***	***	***	***	***	2496.9	***
2	***	8.3	***	***	***	***	***	398.3	***
3	***	***	***	***	***	***	***	***	***
4	***	***	***	***	***	***	***	***	***
5	***	***	***	***	***	***	***	***	***
6	***	***	***	***	***	***	***	***	***
7	***	***	***	***	***	***	***	***	***
8	***	***	***	***	***	***	***	***	***
9	***	***	***	***	***	***	***	***	***
10	***	21.1	***	***	***	***	***	5263.0	***
11	***	16.3	***	***	***	***	***	2674.2	***
12	***	18.9	***	***	***	***	***	3924.6	***
13	***	7.9	***	***	***	***	***	632.4	***
14	***	9.9	***	***	***	***	***	787.4	***
15	***	4.1	***	***	***	***	***	111.6	***
16	***	7.9	***	***	***	***	***	358.8	***
17	***	9.3	***	***	***	***	***	476.9	***
18	***	10.9	***	***	***	***	***	1309.5	***
19	***	5.3	***	***	***	***	***	145.8	***
20	***	16.2	***	***	***	***	***	2808.3	***
21	***	8.3	***	***	***	***	***	421.4	***
22	***	18.7	***	***	***	***	***	3876.6	***
23	***	***	***	***	***	***	***	***	***
24	***	13.3	***	***	***	***	***	1497.6	***
25	***	7.5	***	***	***	***	***	279.9	***
26	***	7.5	***	***	***	***	***	319.5	***
27	***	9.2	***	***	***	***	***	507.8	***
28	***	***	***	***	***	***	***	***	***
29	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***
31	***	***	***	***	***	***	***	***	***

Daily Wind Speed Statistics

	9M	30M	46M
Total Count:	0	11173	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	50.06 %	00.00 %

Daily Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Daily Wind Energy Statistics

	9M	30M	46M
Total Count:	0	11173	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	50.06 %	00.00 %

Monthly Averages For JAN, 1987

Month	Wind Speed (M/S)			Wind Direction (Deg)			Wind Energy (W/M**2)		
	9M	30M	46M	9M	30M	46M	9M	30M	46M
JAN	***	10.7	***	***	***	***	***	1.49E+3	***

Monthly Wind Speed Statistics

	9M	30M	46M
Total Count:	0	11173	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	50.06 %	00.00 %

Monthly Wind Direction Statistics

	9M	30M	46M
Total Count:	0	0	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	00.00 %	00.00 %

Monthly Wind Energy Statistics

	9M	30M	46M
Total Count:	0	11173	0
Monthly Count:	22320	22320	22320
Percent Recovery:	00.00 %	50.06 %	00.00 %

APPENDIX D
MONTHLY WIND ROSES

SEP, 1985

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE (DEG)

2ND
PARAM
RANGE (M/S)

	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	TOTAL	PERCENT
	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ	FREQ
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
23	49	52	22	50	60	37	60	37	60	63	79	45	56	48	41	45	790	6.25
26	21	20	36	71	65	35	46	36	42	36	64	55	56	56	47	20	696	5.51
30	19	11	18	50	42	17	44	34	36	54	76	68	49	35	18	35	601	4.75
21	6	6	13	29	22	23	51	28	31	64	85	48	38	30	20	20	515	4.07
25	9	9	19	37	15	25	18	12	22	64	76	47	38	33	15	17	434	3.43
14	6	12	18	30	5	12	22	20	36	47	47	41	30	13	20	373	2.95	
14	20	9	8	32	40	10	17	9	19	29	62	60	44	20	17	24	420	3.32
14	10	7	29	43	6	7	3	3	9	25	69	71	57	20	25	17	412	3.26
11	3	4	41	68	13	2	3	9	15	57	90	77	77	23	10	16	442	3.50
11	2	6	44	98	14	6	1	12	13	48	96	77	15	12	13	13	461	3.65
2	0	6	44	121	13	4	1	14	13	51	92	79	14	5	10	10	469	3.71
2	0	6	44	121	13	4	1	14	13	51	92	79	14	5	10	10	475	3.76
3	0	12	55	167	10	3	0	14	19	66	99	82	5	2	2	539	4.26	
5	0	12	64	179	15	0	0	25	25	81	103	64	11	2	10	596	4.71	
1	0	11	67	169	11	0	0	15	19	68	83	59	14	1	5	523	4.14	
8	0	6	59	166	2	0	0	13	55	78	56	51	13	0	2	521	4.12	
3	0	4	70	147	0	0	0	22	67	75	63	61	5	0	6	472	3.89	
2	0	1	58	110	2	0	0	4	60	63	82	55	2	0	3	439	3.47	
1	0	1	60	105	1	0	0	1	4	57	88	75	41	4	0	3	388	3.07
3	0	0	39	77	0	0	0	0	6	52	83	72	41	8	0	2	377	2.98
3	0	0	37	73	0	0	0	0	8	68	80	94	32	9	0	1	385	3.05
3	0	0	21	69	0	0	0	0	8	62	90	70	35	11	0	0	352	2.78
2	0	0	16	58	0	0	0	0	0	7	62	24	5	0	0	0	277	2.19
3	0	0	7	45	0	0	0	0	7	53	71	62	24	5	0	0	274	2.17
2	0	0	9	31	0	0	0	0	2	54	72	68	29	7	0	0	215	1.70
0	0	0	0	23	0	0	0	0	1	47	58	50	25	6	0	1	168	1.33
0	0	0	0	3	22	0	0	0	0	41	44	32	19	7	0	0	137	1.08
0	0	0	1	11	0	0	0	0	0	35	43	26	17	4	0	0	108	0.85
0	0	0	0	10	0	0	0	0	1	41	31	15	8	2	0	0	67	0.53
0	0	0	0	5	0	0	0	0	0	15	27	15	3	2	0	0	56	0.44
0	0	0	0	3	1	0	0	0	0	15	29	5	3	2	0	0	40	0.32
0	0	0	0	1	0	0	0	0	0	10	19	5	3	2	0	0	35	0.28
0	0	0	0	3	0	0	0	0	2	11	16	1	2	0	0	0	25	0.20
0	0	0	0	0	2	0	0	0	1	14	15	2	0	0	0	0	13	0.10
0	0	0	0	1	0	0	0	0	1	7	16	0	0	0	0	0	8	0.06
0	0	0	0	1	0	0	0	0	1	8	3	0	0	0	0	0	4	0.00
0	0	0	0	0	0	0	0	0	0	4	3	1	0	0	0	0	3	0.00
0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	4	0.03
0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	0.02
0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0.01
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00

TABLE D-1

JOINT FREQUENCY DISTRIBUTION TABLE SEP, 1985

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M_RANGE (DEG)																																			
		>=		<		2ND		PARAM		RANGE (M/S)		>		<=		20.0		50.0		0		0		0		0		0		0		0		0.00	
		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348	
		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ	
		237		134		193		932		2215		323		189		259		413		1232		2010		2053		1436		486		263		266		12641	
		1.9		1.1		1.5		7.4		17.5		2.6		1.5		2.1		3.3		9.8		15.9		16.2		11.4		3.8		2.1		2.1		100.00	
		PERCENT FREQ																																	

WIND SPEED 9M

AVERAGE	4.2	2.7	4.1	6.9	7.2	3.7	3.1	2.7	5.2	8.5	7.8	7.1	6.6	5.0	3.3	4.2
STD DEV	2.3	1.0	2.2	2.4	2.5	1.9	1.2	0.9	3.2	3.8	3.5	3.0	2.9	3.1	1.3	2.1

TABLE STATISTICS

TOTAL COUNT:	12641
MONTHLY COUNT:	21600
PERCENT RECOVERY:	58.52 %

TABLE D-1 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE SEP, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

2ND PARAM RANGE (M/S)		WIND_DIRECTION_30M_RANGE (DEG)																TOTAL FREQ	PERCENT FREQ		
		>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303			326	348
>	<=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
1.2	1.6	6	17	31	12	39	32	26	32	36	25	33	25	33	28	23	13	411	1	0	0.01
1.6	2.0	29	25	27	14	33	22	47	30	37	52	47	39	39	39	24	27	529	529	529	4.18
2.0	2.4	25	11	8	26	38	21	14	18	23	30	52	39	30	39	30	19	423	423	423	3.35
2.4	2.8	16	12	10	14	69	40	10	26	15	28	27	65	45	34	19	13	443	443	443	3.50
2.8	3.2	18	10	2	21	50	21	13	18	11	25	40	76	68	38	24	24	459	459	459	3.63
3.2	3.6	22	9	10	17	30	8	8	15	9	42	50	57	49	45	30	14	415	415	415	3.28
3.6	4.0	12	8	8	31	26	8	6	13	20	19	31	58	46	23	18	18	345	345	345	2.73
4.0	4.4	10	3	13	28	22	4	4	5	21	35	42	73	35	18	20	18	351	351	351	2.78
4.4	4.8	14	9	12	26	31	8	8	5	21	35	42	73	35	18	20	18	351	351	351	2.78
4.8	5.2	10	7	6	33	32	3	2	3	15	32	61	59	44	31	21	18	394	394	394	3.12
5.2	5.6	14	6	2	52	33	4	2	4	7	10	54	66	58	17	10	16	355	355	355	2.81
5.6	6.0	4	0	4	54	69	12	2	1	6	6	47	94	57	13	11	7	387	387	387	3.06
6.0	6.4	3	0	9	50	65	3	3	0	12	13	63	97	69	6	11	13	417	417	417	3.30
6.4	6.8	2	0	9	57	104	5	0	0	16	17	55	109	86	3	4	8	486	486	486	3.84
6.8	7.2	3	0	13	52	110	10	0	0	16	17	55	109	86	3	4	8	486	486	486	3.84
7.2	7.6	1	0	14	80	117	10	1	0	20	24	47	72	61	6	1	3	457	457	457	3.62
7.6	8.0	1	0	14	91	132	3	0	1	22	30	61	88	56	5	3	4	511	511	511	4.04
8.0	8.4	5	0	14	93	138	2	0	1	19	36	46	85	58	4	0	9	510	510	510	4.03
8.4	8.8	4	0	7	100	110	6	0	0	10	45	55	61	56	10	0	5	469	469	469	3.71
8.8	9.2	2	0	2	82	110	0	0	0	13	50	63	85	56	4	0	2	469	469	469	3.71
9.2	9.6	2	0	1	84	87	0	0	0	14	52	68	64	49	3	0	6	430	430	430	3.40
9.6	10.0	2	0	1	58	71	2	0	0	17	54	70	66	39	1	0	3	384	384	384	3.04
10.0	10.4	1	0	0	58	70	0	0	1	9	58	73	66	50	0	0	2	388	388	388	3.07
10.4	10.8	0	0	0	42	74	1	0	0	8	74	59	77	29	1	0	4	369	369	369	2.92
10.8	11.2	0	0	0	35	58	0	0	0	13	73	71	76	30	0	0	5	361	361	361	2.86
11.2	11.6	0	0	0	22	37	0	0	0	8	71	69	66	22	2	0	1	298	298	298	2.36
11.6	12.0	0	0	0	16	49	0	0	0	6	61	59	62	32	2	0	1	288	288	288	2.28
12.0	12.4	1	0	0	15	31	0	0	0	5	54	80	60	28	5	0	4	283	283	283	2.24
12.4	12.8	0	0	0	14	22	0	0	0	8	50	72	55	29	3	0	3	256	256	256	2.03
12.8	13.2	0	0	0	14	17	0	0	0	0	41	47	38	26	1	0	0	184	184	184	1.46
13.2	13.6	0	0	0	9	13	0	0	0	0	53	38	23	17	7	0	0	160	160	160	1.27
13.6	14.0	0	0	0	7	10	0	0	0	0	40	38	22	17	8	0	0	142	142	142	1.12
14.0	14.4	0	0	0	2	9	0	0	0	2	39	37	18	12	0	0	1	120	120	120	0.95
14.4	14.8	0	0	0	2	2	0	0	0	1	41	28	8	2	2	0	0	88	88	88	0.70
14.8	15.2	0	0	0	0	2	0	0	0	0	22	24	6	2	1	0	0	59	59	59	0.47
15.2	15.6	0	0	0	1	3	0	0	0	0	16	23	6	3	0	0	0	52	52	52	0.41
15.6	16.0	0	0	0	0	6	0	0	0	0	13	14	5	2	2	0	0	42	42	42	0.33
16.0	16.4	0	0	0	0	1	0	0	0	1	19	10	2	2	0	0	0	35	35	35	0.28
16.4	16.8	0	0	0	0	0	0	0	1	0	16	12	0	0	0	0	0	30	30	30	0.24
16.8	17.2	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	13	13	13	0.10
17.2	17.6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	12	12	12	0.09
17.6	18.0	0	0	0	0	2	0	0	0	0	3	2	1	0	0	0	0	8	8	8	0.06
18.0	18.4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0.01
18.4	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0.01
18.8	19.2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	2	0.02
19.2	19.6	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4	4	4	0.03
19.6	20.0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0.03

TABLE D-2

JOINT FREQUENCY DISTRIBUTION TABLE SEP, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)	WIND_DIRECTION_30M RANGE (DEG)																TOTAL FREQ	PERCENT FREQ
>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
>																		
=<																		
20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
20.4 20.8	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.02
20.8 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	207	117	217	1317	1923	225	146	175	425	1411	1879	2146	1471	425	268	289	12641	100.00
PERCENT FREQ	1.6	0.9	1.7	10.4	15.2	1.8	1.2	1.4	3.4	11.2	14.9	17.0	11.6	3.4	2.1	2.3		

WIND_SPEED_30M

AVERAGE	3.9	2.9	4.7	7.8	7.7	3.7	2.6	2.8	6.3	9.6	8.6	7.6	7.1	4.6	3.6	4.9		
STD DEV	2.1	1.2	2.5	2.7	3.0	2.2	1.3	1.7	3.8	4.1	3.9	3.4	3.3	3.2	1.6	2.8		

TABLE STATISTICS

TOTAL COUNT: 12641
MONTHLY COUNT: 21600
PERCENT RECOVERY: 58.52 %

JOINT FREQUENCY DISTRIBUTION TABLE

SEP, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

>=		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL		PERCENT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
2ND		PARAM		RANGE		(M/S)		>		<		>		<		>		<		>		<		>		<		>		<		>		<		>		<																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE D-3

JOINT FREQUENCY DISTRIBUTION TABLE SEP, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)																																							
		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ		PERCENT FREQ	
>		<		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348					
2ND PARAM RANGE (M/S)																																							
>				0		0		0		0		0		0		0		0		1		0		2		0		0		0		0		0		3		0.02	
20.0 20.4				0		0		0		0		0		0		0		0		2		1		0		0		0		0		0		0		3		0.02	
20.4 20.8				0		0		0		0		0		0		0		0		0		1		0		0		0		0		0		0		1		0.01	
20.8 21.2				0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		1		0.01	
21.2 21.6				0		0		0		0		0		0		0		0		1		0		0		0		0		0		0		0		1		0.00	
21.6 50.0				0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00	
TOTAL FREQ		241		118		143		855		2390		296		125		155		348		1114		1987		2157		1665		501		265		281		12641		100.00			
PERCENT FREQ		1.9		0.9		1.1		6.8		18.9		2.3		1.0		1.2		2.8		8.8		15.7		17.1		13.2		4.0		2.1		2.2							

WIND_SPEED_46M

AVERAGE	4.5	3.0	4.3	7.6	7.9	4.1	2.8	2.6	6.0	10.1	9.4	7.9	7.4	5.3	3.6	4.9
STD DEV	2.5	1.2	2.4	2.8	3.0	2.3	1.5	1.1	3.8	4.3	4.1	3.6	3.3	3.6	1.5	2.6

TABLE STATISTICS

TOTAL COUNT: 12641
MONTHLY COUNT: 21600
PERCENT RECOVERY: 58.52 %

JOINT FREQUENCY DISTRIBUTION TABLE

OCT., 1985

WIND DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)		>=		<		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ		PERCENT FREQ	
>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<	>	<		
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00		
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00		
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00		
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00		
1.6	2.0	39	34	35	41	52	55	60	67	46	43	38	34	38	34	18	39	41	52	594	5.02																			694	5.02		
2.0	2.4	46	26	17	28	35	39	52	42	36	28	25	17	30	26	31	42	30	31	520	3.76																			520	3.76		
2.4	2.8	43	15	8	17	32	29	14	11	27	26	23	35	24	24	22	31	22	31	381	2.76																				381	2.76	
2.8	3.2	23	12	12	11	25	5	6	15	23	16	29	26	23	28	15	19	15	19	288	2.08																				288	2.08	
3.2	3.6	29	6	4	12	29	13	6	7	24	10	35	35	27	28	13	10	13	10	288	2.08																				324	2.34	
3.6	4.0	21	3	2	17	25	3	5	4	12	16	42	54	61	30	12	17	324	2.34																					341	2.47		
4.0	4.4	18	2	6	12	18	5	1	2	9	11	61	76	69	19	13	19	341	2.47																					378	2.73		
4.4	4.8	22	4	7	14	17	2	1	3	9	13	61	82	89	21	12	21	378	2.73																					395	2.79		
4.8	5.2	24	2	2	11	17	1	2	5	11	19	79	91	65	19	11	26	395	2.79																					470	3.40		
5.2	5.6	27	1	1	3	17	0	1	32	19	25	103	116	66	25	19	15	470	3.40																					571	4.13		
5.6	6.0	34	0	0	11	27	0	0	6	15	22	113	172	100	28	23	20	571	4.13																					527	3.81		
6.0	6.4	27	1	2	8	28	1	0	2	15	28	100	190	80	23	5	17	527	3.81																					522	3.68		
6.4	6.8	32	0	1	21	27	3	0	1	19	26	109	141	93	21	9	19	522	3.68																					508	3.68		
6.8	7.2	20	2	3	26	26	8	0	1	17	37	102	134	87	18	9	18	508	3.68																					567	4.10		
7.2	7.6	24	1	2	22	23	5	0	1	25	42	125	160	93	12	10	22	567	4.10																					502	3.63		
7.6	8.0	24	1	0	24	33	2	0	1	15	68	89	115	95	15	5	15	502	3.63																					534	3.86		
8.0	8.4	26	0	0	18	45	2	0	6	32	79	101	112	89	15	6	12	534	3.86																					476	3.44		
8.4	8.8	17	0	0	6	30	0	0	4	32	84	101	110	59	17	2	14	476	3.44																					498	3.60		
8.8	9.2	11	0	0	5	33	3	0	1	29	101	92	102	80	26	5	10	498	3.60																					465	3.36		
9.2	9.6	10	1	0	0	44	0	0	0	29	104	90	95	59	17	3	13	465	3.36																					455	3.29		
9.6	10.0	4	0	0	0	48	0	0	0	27	128	102	77	44	22	2	1	455	3.29																					436	3.15		
10.0	10.4	2	0	0	0	51	0	0	0	21	138	79	65	62	12	0	6	436	3.15																					377	2.73		
10.4	10.8	2	0	0	0	50	0	0	2	20	106	81	39	61	13	0	3	377	2.73																					344	2.49		
10.8	11.2	3	0	0	0	55	0	0	2	8	112	79	34	29	18	0	4	344	2.49																					353	2.55		
11.2	11.6	3	0	0	0	41	0	0	1	18	110	87	34	39	18	0	2	319	2.31																					254	1.84		
11.6	12.0	1	0	0	0	40	0	0	0	8	116	77	26	39	10	0	2	254	1.84																					240	1.74		
12.0	12.4	2	0	0	0	21	0	0	1	16	92	75	12	23	10	0	2	240	1.74																					193	1.40		
12.4	12.8	1	1	0	0	11	0	0	3	9	102	88	7	13	5	0	5	193	1.40																					133	0.96		
12.8	13.2	2	0	0	0	4	0	0	0	5	83	79	3	8	4	0	5	133	0.96																					124	0.90		
13.2	13.6	0	0	0	0	1	0	0	0	0	53	53	0	12	5	0	1	124	0.90																					118	0.85		
13.6	14.0	1	0	0	0	0	0	0	0	7	70	34	2	1	1	0	3	118	0.85																					108	0.78		
14.0	14.4	0	0	0	0	0	0	0	0	0	67	28	1	2	0	0	1	108	0.78																					127	0.92		
14.4	14.8	0	0	0	0	0	0	0	0	0	6	77	38	2	1	0	0	127	0.92																					130	0.94		
14.8	15.2	0	0	0	0	0	0	0	0	9	75	41	1	1	0	0	3	130	0.94																					121	0.88		
15.2	15.6	0	0	0	0	0	0	0	0	8	74	39	0	0	0	0	0	121	0.88																					134	0.97		
15.6	16.0	0	0	0	0	0	0	0	0	10	70	31	0	0	0	0	1	134	0.97																					100	0.72		
16.0	16.4	0	0	0	0	0	0	0	0	0	10	83	38	1	0	0	0	100	0.72																					101	0.73		
16.4	16.8	1	0	0	0	0	0	0	0	5	68	25	1	0	0	0	0	87	0.63																					60	0.43		
16.8	17.2	0	0	0	0	0	0	0	0	7	72	22	0	0	0	0	0	60	0.43																					55	0.40		
17.2	17.6	0	0	0	0	0	0	0	0	0	5	64	18	0	0	0	0	55	0.40																					39	0.28		
17.6	18.0	0	0	0	0	0	0	0	0	0	7	43	10	0	0	0	0	39	0.28																					23	0.17		
18.0	18.4	0	0	0	0	0	0	0	0	0	3	38	14	0	0	0	0	23	0.17																						21	0.15	
18.4	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																								
18.8	19.2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																								
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																								
19.6	20.0	0	0	0	0	0	0	0	0	0	0																																

TABLE D-4

JOINT FREQUENCY DISTRIBUTION TABLE

OCT, 1985

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M_RANGE (DEG)

>=		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL		PERCENT	
<		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		FREQ		FREQ			
2ND		PARAM		RANGE		(M/S)		>		<																													
20.0		20.4		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		10		0.07			
20.4		20.8		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		5		0.04			
20.8		21.2		0		0		0		0		0		0		0		0		3		1		0		0		0		0		0		4		0.03			
21.2		50.0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
TOTAL FREQ		540		112		102		307		905		176		148		220		688		2748		2729		2207		1644		574		268		454		13822		100.00			
PERCENT FREQ		3.9		0.8		0.7		2.2		6.6		1.3		1.1		1.6		5.0		19.9		19.7		16.0		11.9		4.2		1.9		3.3							
WIND SPEED		9M		—		AVERAGE		—		—		—		—		—		—		—		—		—		—		—		—		—		—		—			
STD DEV		5.3		2.9		3.0		5.0		7.5		3.1		2.3		3.7		8.5		11.7		9.3		7.0		7.2		6.5		4.3		5.6		3.8		3.8			

TABLE STATISTICS

TOTAL COUNT: 13822
MONTHLY COUNT: 22320
PERCENT RECOVERY: 61.93 %

JOINT FREQUENCY DISTRIBUTION TABLE

OCT, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)		WIND_DIRECTION_30M RANGE (DEG)																		TOTAL FREQ	PERCENT FREQ
		>=	<	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326			348
>	0.0	0.4	0	0	0	0	0	1	0	0	0	4	3	0	0	0	0	0	0	8	
=	0.4	0.8	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	6	
<	0.8	1.2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
	1.2	1.6	15	14	21	22	31	27	18	9	26	16	18	18	10	10	12	9	11	277	
	1.6	2.0	44	32	34	33	71	49	25	20	26	19	30	29	29	29	33	35	538		
	2.0	2.4	26	14	14	21	31	26	3	7	7	7	12	13	20	14	21	20	266		
	2.4	2.8	34	11	15	10	34	20	8	6	3	9	23	15	13	19	22	14	256		
	2.8	3.2	14	6	10	20	29	10	6	8	12	9	23	12	20	18	16	13	226		
	3.2	3.6	20	9	7	13	21	6	1	2	18	10	18	19	20	12	10	8	194		
	3.6	4.0	13	4	2	14	27	2	0	3	3	15	14	34	20	13	11	12	187		
	4.0	4.4	20	1	2	17	13	6	2	0	4	10	27	33	41	28	7	9	220		
	4.4	4.8	14	1	2	26	16	5	3	0	6	3	27	40	35	20	6	16	220		
	4.8	5.2	14	0	3	7	15	7	1	1	5	8	31	64	31	22	12	13	234		
	5.2	5.6	17	1	1	3	20	0	1	2	4	9	42	79	37	9	11	20	256		
	5.6	6.0	29	2	0	2	9	1	1	1	7	11	44	85	27	15	9	19	262		
	6.0	6.4	22	0	0	3	12	1	0	1	8	9	50	69	32	7	13	18	245		
	6.4	6.8	19	0	0	6	6	0	0	2	7	11	53	75	36	8	15	17	255		
	6.8	7.2	19	2	1	5	2	0	0	0	4	22	53	73	41	7	9	19	257		
	7.2	7.6	16	0	0	10	5	2	0	0	2	23	53	78	54	5	9	22	279		
	7.6	8.0	9	0	4	10	10	2	0	0	4	41	69	80	58	3	7	24	321		
	8.0	8.4	12	0	1	20	30	5	0	0	5	22	50	73	50	9	5	28	310		
	8.4	8.8	10	0	1	10	23	1	0	0	5	38	55	74	43	9	6	29	304		
	8.8	9.2	7	0	0	8	30	0	0	0	6	45	41	64	65	8	4	24	302		
	9.2	9.6	7	0	0	11	23	0	0	0	11	42	39	62	51	7	3	14	270		
	9.6	10.0	12	0	0	9	31	0	0	0	10	46	39	57	62	8	3	17	294		
	10.0	10.4	6	0	0	4	27	0	0	0	18	44	39	56	30	12	4	9	249		
	10.4	10.8	3	0	0	3	50	0	0	0	14	51	33	52	37	10	2	9	264		
	10.8	11.2	0	0	0	0	1	45	0	0	14	65	46	32	34	16	0	10	263		
	11.2	11.6	0	0	0	2	47	0	0	0	21	69	44	25	23	5	2	3	241		
	11.6	12.0	0	0	0	2	39	0	0	0	23	60	34	16	20	10	0	4	208		
	12.0	12.4	3	0	0	1	45	0	0	0	30	76	24	24	26	6	0	2	237		
	12.4	12.8	1	0	0	2	38	0	0	0	18	72	28	25	25	5	0	4	218		
	12.8	13.2	1	0	0	1	25	0	0	0	17	83	29	16	16	12	0	2	201		
	13.2	13.6	0	0	0	0	14	0	0	0	10	70	30	10	18	7	1	1	161		
	13.6	14.0	0	0	0	0	10	0	0	0	6	43	33	3	3	11	5	0	112		
	14.0	14.4	0	0	0	0	4	0	0	0	2	42	21	3	6	2	0	5	85		
	14.4	14.8	0	0	0	0	1	0	0	0	1	28	19	0	6	5	0	2	62		
	14.8	15.2	0	0	0	0	0	0	0	0	0	21	11	1	1	1	0	0	43		
	15.2	15.6	0	0	0	0	0	0	0	0	0	17	12	3	3	3	0	3	41		
	15.6	16.0	0	0	0	0	0	0	0	0	0	24	22	1	1	1	0	1	50		
	16.0	16.4	0	0	0	0	0	0	0	0	0	22	8	0	1	1	0	1	33		
	16.4	16.8	0	0	0	0	0	0	0	0	0	17	5	0	2	0	0	2	26		
	16.8	17.2	0	0	0	0	0	0	0	0	0	16	7	2	0	0	0	2	27		
	17.2	17.6	0	0	0	0	0	0	0	0	0	16	11	0	0	0	0	1	28		
	17.6	18.0	0	0	0	0	0	0	0	0	0	12	10	0	0	0	0	3	25		
	18.0	18.4	0	0	0	0	0	0	0	0	0	6	7	0	0	0	0	1	14		
	18.4	18.8	0	0	0	0	0	0	0	0	0	5	9	0	0	0	0	0	14		
	18.8	19.2	0	0	0	0	0	0	0	0	0	4	6	0	0	0	0	0	10		
	19.2	19.6	0	0	0	0	0	0	0	0	0	7	5	0	0	0	0	1	13		
	19.6	20.0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	10		

TABLE D-5

JOINT FREQUENCY DISTRIBUTION TABLE

OCT, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)	>=		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348				
>	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	6	0.07
20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0.03
20.4 20.8	1	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	5	0.06
20.8 21.2	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3	0.03
21.2 21.6	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.02
21.6 22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
22.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	407	99	118	296	836	170	69	62	361	1321	1319	1415	1064	385	252	470			8644	100.00
PERCENT FREQ	4.7	1.2	1.4	3.4	9.7	2.0	0.8	0.7	4.2	15.3	15.3	16.4	12.3	4.5	2.9	5.4				

WIND_SPEED_30M

AVERAGE	5.1	2.4	2.7	5.1	7.7	2.8	2.3	2.6	8.1	11.1	9.1	7.5	7.9	6.6	4.7	6.9
STD DEV	2.7	1.2	1.6	3.0	4.1	1.7	1.0	1.3	4.3	3.9	4.2	2.8	3.2	4.0	2.6	3.6

TABLE STATISTICS

TOTAL COUNT: 8644
MONTHLY COUNT: 22320
PERCENT RECOVERY: 38.73 %

TABLE D-5 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

OCT, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)		>= 348 < 11																								TOTAL FREQ		PERCENT FREQ																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
>	<=	13	3	3	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE D-6

JOINT FREQUENCY DISTRIBUTION TABLE

OCT, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)																				PERCENT FREQ
>=		348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
<		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348			
20.0 20.4		0	0	0	0	0	0	0	0	0	2	68	28	0	0	0	0	1	99	0.66
20.4 20.8		0	0	0	0	0	0	0	0	0	1	54	24	0	0	0	0	0	79	0.53
20.8 21.2		0	0	0	0	0	0	0	0	0	2	52	14	0	0	0	0	0	68	0.45
21.2 21.6		0	0	0	0	0	0	0	0	0	2	36	10	0	0	0	0	0	48	0.32
21.6 22.0		1	0	0	0	0	0	0	0	0	0	35	7	0	0	0	0	0	43	0.29
22.0 22.4		0	0	0	0	0	0	0	0	0	0	23	9	0	0	0	0	0	32	0.21
22.4 22.8		0	0	0	0	0	0	0	0	0	1	26	6	0	0	0	0	0	33	0.22
22.8 23.2		0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	15	0.10
23.2 23.6		0	0	0	0	0	0	0	0	0	0	14	2	0	0	0	0	0	16	0.11
23.6 24.0		0	0	0	0	0	0	0	0	0	1	16	1	0	0	0	0	0	18	0.12
24.0 24.4		0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	4	0.03
24.4 24.8		0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	0.05
24.8 25.2		0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	0.03
25.2 25.6		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
25.6 26.0		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
26.0 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ		531	130	122	316	979	224	73	81	619	3309	2837	2409	2008	587	309	467	15001	100.00	
PERCENT FREQ		3.5	0.9	0.8	2.1	6.5	1.5	0.5	0.5	4.1	22.1	18.9	16.1	13.4	3.9	2.1	3.1			

WIND SPEED 46M

AVERAGE — 5.8 2.6 2.4 4.9 7.9 3.4 2.6 3.3 9.3 13.4 10.8 7.8 8.2 6.4 4.9 6.6

STD DEV 3.2 1.6 1.3 2.8 3.7 1.9 1.0 2.1 4.9 4.9 4.8 2.9 3.1 3.7 2.7 3.8

TABLE STATISTICS

TOTAL COUNT: 15001

MONTHLY COUNT: 22320

PERCENT RECOVERY: 67.21 %

TABLE D-6 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

NOV., 1985

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)	WIND_DIRECTION_9M RANGE (DEG)																TOTAL FREQ	PERCENT FREQ	
	>=	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326		348
>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6	151	115	124	117	123	111	64	54	50	63	131	81	67	70	118	96	1535	8.83	7.33
2.0	86	109	125	113	144	120	39	23	41	52	73	51	58	56	113	71	1274	7.33	4.51
2.4	68	61	73	91	126	89	37	10	12	17	33	20	18	39	60	31	785	4.51	4.06
2.8	60	27	67	112	127	46	28	6	11	13	34	16	21	32	57	49	706	3.94	3.35
3.2	52	25	33	141	131	32	24	3	4	25	37	28	46	25	55	25	686	3.94	3.35
3.6	31	21	26	83	143	28	8	4	2	13	34	37	58	32	33	30	583	3.35	3.30
4.0	21	9	30	60	190	34	4	5	1	11	25	54	63	35	21	11	574	3.30	3.55
4.4	16	8	25	92	221	40	3	2	1	4	22	80	48	30	10	15	617	3.55	3.93
4.8	15	7	41	123	224	35	2	3	0	8	34	93	62	25	5	6	683	3.93	4.08
5.2	12	4	43	186	228	48	0	0	0	1	24	99	46	15	1	3	710	4.08	3.95
5.6	1	5	14	179	272	32	0	0	0	3	24	84	53	16	2	2	687	3.95	3.22
6.0	4	1	13	89	263	14	1	0	6	3	35	80	51	11	0	1	544	3.22	3.13
6.4	3	2	6	103	233	9	1	0	2	7	35	74	46	6	2	0	486	3.13	2.79
6.8	0	0	0	124	185	2	1	0	2	7	35	74	46	6	2	0	460	2.79	2.64
7.2	0	0	0	146	156	3	1	1	4	5	29	60	44	10	0	1	460	2.64	2.39
7.6	0	0	0	136	113	2	0	1	5	8	36	59	47	8	1	0	416	2.39	2.28
8.0	0	0	0	111	112	1	1	1	4	10	36	59	54	7	1	0	397	2.28	2.45
8.4	0	0	0	136	118	0	0	1	9	6	46	56	43	10	1	0	426	2.45	2.56
8.8	0	0	0	117	122	0	0	0	14	13	37	64	46	7	0	0	420	2.56	2.21
9.2	0	0	0	145	127	0	0	0	0	9	10	45	54	51	5	0	446	2.21	2.01
9.6	0	0	0	114	92	1	0	0	0	8	15	55	46	49	5	0	385	2.01	2.03
10.0	0	0	0	92	77	1	0	0	0	12	20	34	63	49	1	0	350	2.03	1.74
10.4	0	0	0	75	102	0	0	0	0	12	28	35	45	49	7	0	353	1.74	1.83
10.8	0	0	0	73	75	0	0	0	0	22	29	18	37	45	3	0	302	1.83	1.59
11.2	0	0	0	63	105	0	0	0	0	24	34	19	29	44	1	0	319	1.59	1.39
11.6	0	0	0	40	105	0	0	0	0	21	23	12	34	39	2	0	276	1.39	1.29
12.0	0	0	0	27	81	0	0	0	0	20	43	18	24	26	2	0	241	1.29	1.13
12.4	1	0	0	17	73	0	0	0	0	37	44	19	16	17	0	0	224	1.13	1.05
12.8	0	0	0	6	50	0	0	0	0	38	48	24	9	20	1	0	196	1.05	0.94
13.2	0	0	0	0	35	0	0	0	32	61	26	11	16	1	0	0	182	0.94	0.95
13.6	0	0	0	0	23	0	0	0	0	26	67	35	5	7	0	0	163	0.95	0.90
14.0	0	0	0	1	25	0	0	0	30	79	27	1	2	0	0	0	165	0.90	0.72
14.4	0	0	0	0	21	0	0	0	15	86	30	2	3	0	0	0	157	0.72	0.74
14.8	0	0	0	0	16	0	0	0	24	97	39	3	4	0	0	0	183	0.74	0.75
15.2	0	0	0	0	13	0	0	0	9	82	22	0	0	0	0	0	126	0.75	0.55
15.6	0	0	0	0	15	0	0	0	13	65	34	1	1	0	0	0	129	0.55	0.44
16.0	0	0	0	0	10	0	0	0	0	65	45	0	1	0	0	0	130	0.44	0.40
16.4	0	0	0	0	13	0	0	0	0	57	19	0	1	0	0	0	96	0.40	0.30
16.8	0	0	0	0	13	0	0	0	0	7	44	13	0	0	0	0	77	0.30	0.16
17.2	0	0	0	0	5	0	0	0	5	50	9	0	0	0	0	0	69	0.16	0.11
17.6	0	0	0	0	1	0	0	0	12	32	8	0	0	0	0	0	53	0.11	0.16
18.0	0	0	0	0	1	0	0	0	8	16	2	0	0	0	0	0	27	0.16	0.10
18.4	0	0	0	0	0	0	0	0	0	5	13	1	0	0	0	0	19	0.10	0.07
18.8	0	0	0	0	0	0	0	0	0	13	1	0	0	0	0	0	28	0.07	
19.2	0	0	0	0	0	0	0	0	0	12	15	1	0	0	0	0	18		
19.6	0	0	0	0	0	0	0	0	0	11	6	1	0	0	0	0	13		
20.0	0	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	13		

TABLE D-7

JOINT FREQUENCY DISTRIBUTION TABLE

NOV, 1985

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

		PARAM RANGE (M/S)																			
>=		<																			
< 11		348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ	
>		0	0	0	0	0	0	0	0	0	6	4	0	0	0	0	0	0	10	0.06	
20.0 20.4		0	0	0	0	0	0	0	0	0	9	3	0	0	1	0	0	0	13	0.07	
20.4 20.8		0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	0	0	15	0.09	
20.8 21.2		0	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	0	17	0.10	
21.2 21.6		0	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	0	20	0.11	
21.6 22.0		0	0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	0	20	0.11	
22.0 22.4		0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	10	0.06	
22.4 22.8		0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0.03	
22.8 23.2		0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0.03	
23.2 23.6		0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0.03	
23.6 24.0		0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0.02	
24.0 24.4		0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0.03	
24.4 24.8		0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0.02	
24.8 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ		521	395	621	2912	4309	648	214	114	705	1412	1346	1558	1340	471	480	346	346	17392	100.00	
PERCENT FREQ		3.0	2.3	3.6	16.7	24.8	3.7	1.2	0.7	4.1	8.1	7.7	9.0	7.7	2.7	2.8	2.0	2.0			

WIND_SPEED_9M

AVERAGE	2.8	2.6	3.2	6.7	7.0	3.4	2.7	2.6	12.7	12.6	8.5	7.0	7.2	4.4	2.7	2.8
STD DEV	1.1	1.0	1.3	2.8	3.3	1.5	1.0	1.3	6.2	4.8	4.8	2.9	3.3	2.5	1.0	1.1

TABLE STATISTICS

TOTAL COUNT: 17392
MONTHLY COUNT: 21600
PERCENT RECOVERY: 80.52 %

TABLE D-7 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

NOV, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)		>= 348 < 11																TOTAL FREQ				PERCENT FREQ				
>	<=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	326	348	348	348	348	348	348	348	348
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2	1.6	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	4	1	1633	11.42	1633	11.42	1633	11.42
1.6	2.0	71	109	191	155	184	94	54	46	48	61	101	118	98	110	121	72	30	627	4.38	627	4.38	627	4.38	627	4.38
2.0	2.4	32	62	82	83	120	25	11	9	9	14	30	26	33	27	34	30	497	3.47	497	3.47	497	3.47	497	3.47	497
2.4	2.8	37	53	51	90	91	25	4	8	6	14	19	8	22	26	14	29	47	3.61	517	3.61	517	3.61	517	3.61	
2.8	3.2	46	39	62	99	81	31	3	3	1	12	25	4	18	59	22	12	517	3.30	472	3.30	472	3.30	472	3.30	
3.2	3.6	37	18	41	94	91	18	9	0	2	18	16	5	24	50	30	19	476	3.05	436	3.05	436	3.05	436	3.05	
3.6	4.0	38	23	28	78	102	15	8	0	0	5	16	28	47	31	33	17	436	3.03	434	3.03	434	3.03	434	3.03	
4.0	4.4	26	10	28	63	122	15	3	0	0	12	29	47	51	31	33	15	457	3.19	457	3.19	457	3.19	457	3.19	
4.4	4.8	13	9	31	61	148	7	1	2	0	1	14	52	51	18	15	11	434	3.03	434	3.03	434	3.03	434	3.03	
4.8	5.2	22	8	37	68	133	11	0	2	0	0	29	59	46	19	8	15	502	3.51	502	3.51	502	3.51	502	3.51	
5.2	5.6	8	4	51	107	135	21	0	0	0	3	22	77	51	16	1	3	517	3.61	517	3.61	517	3.61	517	3.61	
5.6	6.0	6	7	36	152	126	17	0	0	0	3	26	64	42	10	2	0	439	3.07	439	3.07	439	3.07	439	3.07	
6.0	6.4	1	3	12	136	127	13	0	0	0	3	38	62	50	5	0	2	414	2.89	414	2.89	414	2.89	414	2.89	
6.4	6.8	1	1	2	104	139	7	0	0	0	7	24	73	49	5	0	6	363	2.54	363	2.54	363	2.54	363	2.54	
6.8	7.2	3	0	0	77	117	2	0	0	0	7	24	73	49	5	0	6	363	2.54	363	2.54	363	2.54	363	2.54	
7.2	7.6	0	0	0	43	112	1	1	1	3	5	40	63	54	2	0	2	327	2.29	327	2.29	327	2.29	327	2.29	
7.6	8.0	0	0	0	67	93	1	3	0	3	5	36	80	53	6	0	2	349	2.44	349	2.44	349	2.44	349	2.44	
8.0	8.4	0	0	0	102	74	1	1	1	4	6	33	68	44	7	0	1	342	2.39	342	2.39	342	2.39	342	2.39	
8.4	8.8	0	0	0	113	50	0	0	1	4	11	45	81	41	6	0	0	352	2.46	352	2.46	352	2.46	352	2.46	
8.8	9.2	0	0	0	131	47	1	0	2	2	7	34	49	43	3	1	0	320	2.24	320	2.24	320	2.24	320	2.24	
9.2	9.6	0	0	0	140	27	0	1	0	6	9	46	67	59	7	0	0	362	2.53	362	2.53	362	2.53	362	2.53	
9.6	10.0	0	0	0	132	32	0	0	13	9	40	53	56	6	1	0	0	342	2.39	342	2.39	342	2.39	342	2.39	
10.0	10.4	0	0	0	130	34	0	0	11	9	36	51	55	4	0	0	0	330	2.31	330	2.31	330	2.31	330	2.31	
10.4	10.8	0	0	0	101	14	0	0	14	17	35	42	42	5	0	0	0	270	1.89	270	1.89	270	1.89	270	1.89	
10.8	11.2	0	0	0	88	18	0	0	11	21	27	64	48	3	0	0	0	280	1.96	280	1.96	280	1.96	280	1.96	
11.2	11.6	1	0	0	68	23	0	0	9	31	19	58	53	0	0	0	0	262	1.83	262	1.83	262	1.83	262	1.83	
11.6	12.0	0	0	0	59	25	0	0	27	17	16	38	48	2	0	0	0	232	1.62	232	1.62	232	1.62	232	1.62	
12.0	12.4	0	0	0	38	21	0	0	32	22	7	23	50	3	0	0	0	186	1.30	186	1.30	186	1.30	186	1.30	
12.4	12.8	0	0	0	31	16	0	0	32	16	17	27	37	1	0	0	0	177	1.24	177	1.24	177	1.24	177	1.24	
12.8	13.2	0	0	0	28	10	0	0	31	20	13	19	23	0	0	0	0	144	1.01	144	1.01	144	1.01	144	1.01	
13.2	13.6	0	0	0	30	14	0	0	29	27	15	14	21	2	0	0	0	152	1.06	152	1.06	152	1.06	152	1.06	
13.6	14.0	0	0	0	15	20	0	0	37	24	17	8	19	0	0	0	0	140	0.98	140	0.98	140	0.98	140	0.98	
14.0	14.4	0	0	0	11	11	0	0	36	34	22	6	21	1	0	0	0	142	0.99	142	0.99	142	0.99	142	0.99	
14.4	14.8	1	0	0	10	13	0	0	39	30	33	7	3	1	0	0	0	137	0.96	137	0.96	137	0.96	137	0.96	
14.8	15.2	0	0	0	2	18	0	0	58	41	32	0	7	1	0	0	0	159	1.11	159	1.11	159	1.11	159	1.11	
15.2	15.6	0	0	0	4	18	0	0	54	38	34	2	5	0	0	0	0	155	1.08	155	1.08	155	1.08	155	1.08	
15.6	16.0	0	0	0	1	10	0	0	43	67	32	1	4	0	0	0	0	158	1.10	158	1.10	158	1.10	158	1.10	
16.0	16.4	0	0	0	2	14	0	0	22	79	31	1	0	0	0	0	0	149	1.04	149	1.04	149	1.04	149	1.04	
16.4	16.8	0	0	0	0	9	0	0	38	75	44	0	0	1	0	0	0	167	1.17	167	1.17	167	1.17	167	1.17	
16.8	17.2	0	0	0	0	15	0	0	40	64	29	0	2	0	0	0	0	150	1.05	150	1.05	150	1.05	150	1.05	
17.2	17.6	0	0	0	0	11	0	0	27	65	28	0	0	0	0	0	0	131	0.92	131	0.92	131	0.92	131	0.92	
17.6	18.0	0	0	0	0	7	0	0	18	46	22	0	1	0	0	0	0	94	0.66	94	0.66	94	0.66	94	0.66	
18.0	18.4	0	0	0	0	12	0	0	7	49	15	0	0	0	0	0	0	83	0.58	83	0.58	83	0.58	83	0.58	
18.4	18.8	0	0	0	0	8	0	0	16	40	5	0	0	0	0	0	0	69	0.48	69	0.48	69	0.48	69	0.48	
18.8	19.2	0	0	0	0	9	0	0	15	33	9	0	0	0	0	0	0	66	0.46	66	0.46	66	0.46	66	0.46	
19.2	19.6	0	0	0	0	3	0	0	11	16	1	0	0	0	0	0	0	31	0.22	31	0.22	31	0.22	31	0.22	
19.6	20.0	0	0	0	0	1	0	0	17	16	1	0	0	0	0	0	0	35	0.24	35	0.24	35	0.24	35	0.24	

TABLE D-8

JOINT FREQUENCY DISTRIBUTION TABLE

NOV, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL	PERCENT	
< 11		33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	FREQ	FREQ	FREQ	
PARAM RANGE (M/S)																				
>	<																			
20.0	20.4	0	0	0	2	0	0	0	0	14	4	0	0	0	0	0	0	20	0.14	
20.4	20.8	0	0	0	0	0	0	0	0	11	2	1	0	0	0	0	0	14	0.10	
20.8	21.2	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	15	0.10	
21.2	21.6	0	0	0	0	0	0	0	0	18	0	0	0	1	0	0	0	19	0.13	
21.6	22.0	0	0	0	0	0	0	0	0	12	1	0	0	0	0	0	0	13	0.09	
22.0	22.4	0	0	0	0	0	0	0	0	16	1	0	0	0	0	0	0	17	0.12	
22.4	22.8	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11	0.08	
22.8	23.2	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13	0.09	
23.2	23.6	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	15	0.10	
23.6	24.0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	0	0	20	0.14	
24.0	24.4	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	14	0.10	
24.4	24.8	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	11	0.08	
24.8	25.2	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	9	0.06	
25.2	25.6	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	10	0.07	
25.6	26.0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8	0.06	
26.0	26.4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.01	
26.4	26.8	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0.03	
26.8	27.2	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0.02	
27.2	27.6	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0.03	
27.6	28.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01	
28.0	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ		344	346	652	2713	2507	305	100	76	976	1099	1207	1514	1418	482	317	248	14304	100.00	
PERCENT FREQ		2.4	2.4	4.6	19.0	17.5	2.1	0.7	0.5	6.8	7.7	8.4	10.6	9.9	3.4	2.2	1.7			

WIND_SPEED 30M

AVERAGE
1.4 1.1 3.2 2.7 3.2 7.2 6.4 3.4 2.7 2.5 15.6 13.8 9.8 7.6 7.8 4.1 2.9 3.2

STD DEV
1.4 1.1 1.4 3.3 3.8 1.7 1.5 1.8 5.6 5.0 5.1 3.1 3.6 2.7 1.2 5.5

WIND_SPEED_30M

AVERAGE

STD DEV

TABLE STATISTICS

TOTAL COUNT: 14304

MONTHLY COUNT: 21600

PERCENT RECOVERY: 66.22 %

TABLE D-8 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

NOV, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)		>= 348		< 11		11 33		33 56		56 78		78 101		101 123		123 146		146 168		168 191		191 213		213 236		236 258		258 281		281 303		303 326		326 348		TOTAL FREQ	PERCENT FREQ														
>	<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00													
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01														
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01														
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01														
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01														
1.6	2.0	99	96	164	188	246	130	74	38	56	76	95	137	128	110	85	75	44	43	44	43	44	43	44	43	44	43	44	43	44	43	44	43	44	43	44	1797	10.34													
2.0	2.4	61	67	84	107	139	58	26	17	22	25	50	31	61	40	31	61	40	31	61	40	31	61	40	31	61	40	31	61	40	31	61	40	31	61	40	31	875	5.03												
2.4	2.8	41	64	83	81	131	62	14	10	15	22	34	27	26	20	13	24	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	676	3.89												
2.8	3.2	60	49	53	109	103	42	6	0	5	16	30	13	24	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	18	15	561	3.23													
3.2	3.6	46	37	39	96	130	40	4	3	3	19	20	13	47	25	22	23	22	23	22	23	22	23	22	23	22	23	22	23	22	23	22	23	22	23	22	23	567	3.26												
3.6	4.0	38	27	19	63	123	19	10	1	0	2	32	19	76	30	15	504	2	32	19	76	30	15	504	2	32	19	76	30	15	504	2	32	19	76	30	15	504	2.90												
4.0	4.4	28	19	20	49	154	23	5	1	0	1	38	40	63	25	30	17	513	1	38	40	63	25	30	17	513	1	38	40	63	25	30	17	513	1	38	40	63	25	30	17	513	2.95								
4.4	4.8	16	7	15	71	206	11	3	0	0	2	42	48	45	21	9	14	541	1	42	48	45	21	9	14	541	1	42	48	45	21	9	14	541	1	42	48	45	21	9	14	541	3.11								
4.8	5.2	15	8	22	122	181	28	0	0	0	0	0	35	95	45	7	2	3	598	0	35	95	45	7	2	3	598	0	35	95	45	7	2	3	598	0	35	95	45	7	2	3	598	3.29							
5.2	5.6	11	4	33	111	190	30	0	0	0	0	0	18	89	57	9	2	3	3	44	0	18	89	57	9	2	3	3	44	0	18	89	57	9	2	3	3	44	0	18	89	57	9	2	3	3	44	3.44			
5.6	6.0	5	2	7	166	201	3	0	0	0	0	0	0	28	78	51	3	2	3	548	0	28	78	51	3	2	3	548	0	28	78	51	3	2	3	548	0	28	78	51	3	2	3	548	3.15						
6.0	6.4	3	0	1	111	219	2	0	0	0	0	0	0	31	71	36	8	0	2	2	442	0	31	71	36	8	0	2	2	442	0	31	71	36	8	0	2	442	0	31	71	36	8	0	2	442	2.54				
6.4	6.8	2	0	0	97	213	1	0	0	0	0	0	0	29	56	37	1	0	3	435	0	29	56	37	1	0	3	435	0	29	56	37	1	0	3	435	0	29	56	37	1	0	3	435	2.50						
6.8	7.2	2	0	0	0	0	0	0	0	0	0	0	0	30	61	42	3	0	5	438	0	30	61	42	3	0	5	438	0	30	61	42	3	0	5	438	0	30	61	42	3	0	5	438	2.52						
7.2	7.6	0	0	0	0	97	188	0	0	0	0	0	0	8	30	61	42	3	0	1	438	0	8	30	61	42	3	0	1	438	0	8	30	61	42	3	0	1	438	0	8	30	61	42	3	0	1	438	2.52		
7.6	8.0	0	0	0	126	143	3	2	0	0	0	0	0	44	66	49	3	0	1	438	0	44	66	49	3	0	1	438	0	44	66	49	3	0	1	438	0	44	66	49	3	0	1	438	2.52						
8.0	8.4	0	0	0	138	102	0	1	2	2	3	33	92	41	2	0	3	419	2	33	92	41	2	0	3	419	2	33	92	41	2	0	3	419	2	33	92	41	2	0	3	419	2.41								
8.4	8.8	0	0	0	134	95	0	0	1	3	3	24	87	47	5	0	0	399	2	33	24	87	47	5	0	0	399	2	33	24	87	47	5	0	0	399	2	33	24	87	47	5	0	0	399	2.30					
8.8	9.2	0	0	0	120	93	1	1	0	4	7	37	80	41	3	0	0	387	2	47	37	80	41	3	0	0	387	2	47	37	80	41	3	0	0	387	2	47	37	80	41	3	0	0	387	2.23					
9.2	9.6	0	0	0	163	94	0	0	0	2	0	8	40	75	42	3	1	429	2	47	40	75	42	3	1	1	429	2	47	40	75	42	3	1	1	429	2	47	40	75	42	3	1	1	429	2.47					
9.6	10.0	0	0	0	140	95	0	0	0	1	4	8	48	85	48	4	0	433	2	49	8	48	85	48	4	0	433	2	49	8	48	85	48	4	0	433	2	49	8	48	85	48	4	0	433	2.49					
10.0	10.4	0	0	0	147	92	0	0	0	3	9	38	63	59	3	0	0	414	2	38	9	38	63	59	3	0	414	2	38	9	38	63	59	3	0	414	2	38	9	38	63	59	3	0	414	2.38					
10.4	10.8	0	0	0	146	74	0	0	0	7	16	35	54	56	1	0	0	369	2	24	16	35	54	56	1	0	0	369	2	24	16	35	54	56	1	0	0	369	2	24	16	35	54	56	1	0	0	369	2.24		
10.8	11.2	0	0	0	135	53	0	0	0	12	20	42	46	39	2	0	0	349	2	01	20	42	46	39	2	0	0	349	2	01	20	42	46	39	2	0	0	349	2	01	20	42	46	39	2	0	0	349	2.01		
11.2	11.6	0	0	0	103	60	0	0	0	10	17	27	58	38	7	0	0	319	1	84	17	27	58	38	7	0	0	319	1	84	17	27	58	38	7	0	0	319	1	84	17	27	58	38	7	0	0	319	1.84		
11.6	12.0	0	0	0	91	54	0	0	0	6	23	25	75	43	0	0	0	317	1	82	23	25	75	43	0	0	0	317	1	82	23	25	75	43	0	0	317	1	82	23	25	75	43	0	0	317	1.82				
12.0	12.4	0	0	0	83	64	0	0	0	8	20	12	51	35	0	0	0	273	1	57	20	12	51	35	0	0	0	273	1	57	20	12	51	35	0	0	273	1	57	20	12	51	35	0	0	273	1.57				
12.4	12.8	0	0	0	76	63	0	0	0	14	22	11	27	37	3	0	0	253	1	46	22	11	27	37	3	0	0	253	1	46	22	11	27	37	3	0	0	253	1	46	22	11	27	37	3	0	0	253	1.46		
12.8	13.2	1	0	0	67	82	0	0	0	20	29	11	32	40	0	0	0	282	1	62	29	11	32	40	0	0	0	282	1	62	29	11	32	40	0	0	282	1	62	29	11	32	40	0	0	282	1.62				
13.2	13.6	0	0	0	43	66	0	0	0	21	32	12	26	31	1	0	0	232	1	33	32	12	26	31	1	0	0	232	1	33	32	12	26	31	1	0	0	232	1	33	32	12	26	31	1	0	0	232	1.33		
13.6	14.0	0	0	0	21	49	0	0	0	26	25	14	15	17	0	0	0	167	0	96	26	25	14	15	17	0	0	167	0	96	26	25	14	15	17	0	0	167	0	96	26	25	14	15	17	0	0	167	0.96		
14.0	14.4	0	0	0	15	44	0	0	0	15	33	15	11	22	0	0	0	156	0	90	15	33	15	11	22	0	0	156	0	90	15	33	15	11	22	0	0	156	0	90	15	33	15	11	22	0	0	156	0.90		
14.4	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	123	0	71	0	0	0	0	0	0	123	0	71	0	0	0	0	0	123	0	71	0	0	0	0	0	123	0	71	0	0	0	0	123	0.71
14.8	15.2	0	0	0	0	5	27	0	0	0	25	39	17	7	16	0	0	136	0	78	25	39	17	7	16	0	0	136	0	78	25	39	17	7	16	0	0	136	0	78	25	39	17	7	16	0	0	136	0.78		
15.2	15.6	0	0	0																																															

JOINT FREQUENCY DISTRIBUTION TABLE

NOV, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

>= 348		11 33		56 78		101 123		146 168		191 213		236 258		281 303		326 348		TOTAL	PERCENT
< 11		33		56		78		101		123		146		168		191		FREQ	FREQ
PARAM RANGE (M/S)																			
> =<																			
20.0 20.4		0	0	0	0	0	0	0	0	10	46	2	0	0	0	0	0	58	0.33
20.4 20.8		0	0	0	0	0	1	0	0	8	33	1	0	0	0	0	0	43	0.25
20.8 21.2		0	0	0	0	0	0	0	0	4	18	3	0	0	0	0	0	25	0.14
21.2 21.6		0	0	0	0	0	0	0	0	8	15	2	0	0	0	0	0	25	0.14
21.6 22.0		0	0	0	0	0	0	0	0	10	5	0	0	0	0	0	0	15	0.09
22.0 22.4		0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	8	0.05
22.4 22.8		0	0	0	0	0	0	0	0	10	9	1	0	0	0	0	0	21	0.12
22.8 23.2		0	0	0	0	0	0	0	0	5	7	0	0	0	0	0	0	12	0.07
23.2 23.6		0	0	0	0	0	0	0	0	10	3	0	0	0	0	0	0	13	0.07
23.6 24.0		0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	0	14	0.08
24.0 24.4		0	0	0	0	0	0	0	0	10	3	0	0	0	0	0	0	13	0.07
24.4 24.8		0	0	0	0	0	0	0	0	15	3	0	0	0	0	0	0	18	0.10
24.8 25.2		0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	0	19	0.11
25.2 25.6		0	0	0	0	0	0	0	0	19	1	0	0	0	0	0	0	20	0.12
25.6 26.0		0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	10	0.06
26.0 26.4		0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7	0.04
26.4 26.8		0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13	0.07
26.8 27.2		0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8	0.05
27.2 27.6		0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0.03
27.6 28.0		0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5	0.03
28.0 28.4		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
28.4 28.8		0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0.02
28.8 29.2		0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.01
29.2 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ		429	381	566	3409	4126	478	147	78	732	1497	1257	1796	1550	375	277	282	17380	100.00
PERCENT FREQ		2.5	2.2	3.3	19.6	23.7	2.8	0.9	0.5	4.2	8.6	7.2	10.3	8.9	2.2	1.6	1.6		

WIND_SPEED_46M

AVERAGE 3.1 2.7 3.0 7.6 7.2 3.2 2.4 2.7 15.7 14.9 9.2 7.8 7.5 3.9 3.0 3.2
STD DEV 1.4 0.9 1.3 3.3 3.8 1.4 1.3 2.0 7.1 5.4 5.3 3.3 3.9 2.6 1.2 1.6

TABLE STATISTICS

TOTAL COUNT: 17380
MONTHLY COUNT: 21600
PERCENT RECOVERY: 80.46 %

TABLE D-9 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

DEC, 1985

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)		WIND_DIRECTION_9M RANGE (DEG)																TOTAL FREQ				PERCENT FREQ		
>	=<	>=	<	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348	TOTAL FREQ	PERCENT FREQ
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6 2.0	25	18	19	8	14	7	13	22	35	18	27	32	17	22	29	28	29	28	28	334	2.41	334	2.41	
2.0 2.4	22	17	9	7	6	8	8	12	8	7	15	19	33	46	37	23	32	25	25	188	1.36	188	1.36	
2.4 2.8	8	11	4	1	3	3	8	4	3	11	5	8	22	40	32	14	33	30	14	149	1.07	149	1.07	
2.8 3.2	8	10	3	1	1	2	3	1	2	3	1	16	21	33	30	16	24	27	16	140	1.01	140	1.01	
3.2 3.6	10	0	1	0	0	0	1	0	1	6	14	16	24	24	23	13	25	21	23	133	0.96	133	0.96	
3.6 4.0	6	5	0	0	0	1	0	2	3	4	9	21	25	21	23	13	25	21	23	133	0.96	133	0.96	
4.0 4.4	5	3	1	0	0	0	0	0	0	0	2	13	25	16	18	15	10	10	10	108	0.78	108	0.78	
4.4 4.8	6	1	0	0	0	0	0	0	0	0	0	0	3	18	24	25	14	19	16	126	0.91	126	0.91	
4.8 5.2	3	1	0	0	0	0	0	0	0	0	0	0	5	17	37	23	12	9	7	114	0.82	114	0.82	
5.2 5.6	2	0	0	0	0	0	0	0	0	0	0	0	0	2	49	29	11	7	14	139	1.00	139	1.00	
5.6 6.0	1	0	0	0	0	0	0	0	1	8	30	77	33	6	13	6	13	6	13	175	1.26	175	1.26	
6.0 6.4	5	0	0	0	0	0	0	0	0	2	16	45	100	46	2	3	13	13	13	232	1.67	232	1.67	
6.4 6.8	2	0	0	0	0	0	0	0	0	0	0	0	12	60	123	38	2	1	14	252	1.82	252	1.82	
6.8 7.2	1	0	0	0	0	0	0	0	0	0	0	0	28	62	137	39	1	3	10	281	2.03	281	2.03	
7.2 7.6	1	0	0	0	0	0	0	0	0	0	0	0	2	42	106	190	33	0	1	22	397	2.86	397	2.86
7.6 8.0	4	0	0	0	0	0	0	0	0	0	0	0	2	67	103	206	32	1	23	438	3.16	438	3.16	
8.0 8.4	7	0	0	0	0	0	0	0	0	0	0	0	4	92	137	209	26	1	0	19	495	3.57	495	3.57
8.4 8.8	6	0	0	0	0	0	0	0	0	0	0	0	3	90	139	223	17	0	0	25	503	3.63	503	3.63
8.8 9.2	8	0	0	0	0	0	0	0	0	0	0	0	3	82	142	231	18	0	0	22	506	3.65	506	3.65
9.2 9.6	3	0	0	0	0	0	0	0	0	0	0	0	7	92	151	217	19	0	0	15	504	3.63	504	3.63
9.6 10.0	5	0	0	0	0	0	0	0	0	0	0	0	1	104	166	153	18	0	1	20	468	3.37	468	3.37
10.0 10.4	0	0	0	0	0	0	0	0	0	0	0	0	2	103	156	153	20	0	0	434	3.13	434	3.13	
10.4 10.8	0	0	0	0	0	0	0	0	0	0	0	0	3	135	145	134	18	0	0	5	440	3.17	440	3.17
10.8 11.2	0	0	0	0	0	0	0	0	0	0	0	0	1	152	126	90	17	2	0	1	389	2.81	389	2.81
11.2 11.6	0	0	0	0	0	0	0	0	0	0	0	0	0	158	127	70	6	0	0	1	362	2.61	362	2.61
11.6 12.0	0	0	0	0	0	0	0	0	0	0	0	0	3	208	106	45	5	2	0	0	369	2.66	369	2.66
12.0 12.4	0	0	0	0	0	0	0	0	0	0	0	0	5	212	97	46	8	1	0	0	378	2.73	378	2.73
12.4 12.8	0	0	0	0	0	0	0	0	0	0	0	0	6	207	105	51	9	0	0	356	2.57	356	2.57	
12.8 13.2	0	0	0	0	0	0	0	0	0	0	0	0	9	221	81	36	9	0	0	368	2.65	368	2.65	
13.2 13.6	0	0	0	0	0	0	0	0	0	0	0	0	12	255	70	21	10	0	0	354	2.55	354	2.55	
13.6 14.0	0	0	0	0	0	0	0	0	0	0	0	0	15	248	70	18	3	0	0	363	2.62	363	2.62	
14.0 14.4	0	0	0	0	0	0	0	0	0	0	0	0	20	259	66	17	1	0	0	304	2.18	304	2.18	
14.4 14.8	0	0	0	0	0	0	0	0	0	0	0	0	21	216	53	10	4	0	0	302	2.19	302	2.19	
14.8 15.2	0	0	0	0	0	0	0	0	0	0	0	0	29	228	36	8	1	0	0	263	1.90	263	1.90	
15.2 15.6	0	0	0	0	0	0	0	0	0	0	0	0	27	205	24	6	1	0	0	266	1.92	266	1.92	
15.6 16.0	0	0	0	0	0	0	0	0	0	0	0	0	32	213	14	7	0	0	0	239	1.72	239	1.72	
16.0 16.4	0	0	0	0	0	0	0	0	0	0	0	0	31	192	12	4	0	0	0	259	1.87	259	1.87	
16.4 16.8	0	0	0	0	0	0	0	0	0	0	0	0	48	199	10	2	0	0	0	232	1.67	232	1.67	
16.8 17.2	0	0	0	0	0	0	0	0	0	0	0	0	38	181	11	2	0	0	0	227	1.64	227	1.64	
17.2 17.6	0	0	0	0	0	0	0	0	0	0	0	0	54	168	5	0	0	0	0	243	1.75	243	1.75	
17.6 18.0	0	0	0	0	0	0	0	0	0	0	0	0	54	183	5	0	1	0	0	219	1.58	219	1.58	
18.0 18.4	0	0	0	0	0	0	0	0	0	0	0	0	59	150	10	0	0	0	0	199	1.43	199	1.43	
18.4 18.8	0	0	0	0	0	0	0	0	0	0	0	0	53	141	4	1	0	0	0	162	1.17	162	1.17	
18.8 19.2	0	0	0	0	0	0	0	0	0	0	0	0	63	95	4	0	0	0	0	150	1.08	150	1.08	
19.2 19.6	0	0	0	0	0	0	0	0	0	0	0	0	50	98	2	0	0	0	0	121	0.87	121	0.87	
19.6 20.0	0	0	0	0	0	0	0	0	0	0	0	0	48	71	2	0	0	0	0	121	0.87	121	0.87	

TABLE D-10

JOINT FREQUENCY DISTRIBUTION TABLE
DEC, 1985
WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M_RANGE (DEG)																						
>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ			
< 11		33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348	326	348		
2ND PARAM RANGE (M/S)																						
>	<=																					
20.0	20.4	0	0	0	0	0	0	0	47	54	0	0	0	0	0	0	0	101	0.73			
20.4	20.8	0	0	0	0	0	0	0	38	37	2	0	0	0	0	0	0	77	0.56			
20.8	21.2	0	0	0	0	0	0	0	34	25	1	0	0	0	0	0	0	60	0.43			
21.2	21.6	0	0	0	0	0	0	0	28	27	1	0	0	0	0	0	0	56	0.40			
21.6	22.0	0	0	0	0	0	0	0	30	26	1	0	0	0	0	0	0	57	0.41			
22.0	22.4	0	0	0	0	0	0	0	21	10	0	0	0	0	0	0	0	31	0.22			
22.4	22.8	0	0	0	0	0	0	0	20	6	0	0	0	0	0	0	0	26	0.19			
22.8	23.2	0	0	0	0	0	0	0	26	7	0	0	0	0	0	0	0	33	0.24			
23.2	23.6	0	0	0	0	0	0	0	20	8	0	0	0	0	0	0	0	28	0.20			
23.6	24.0	0	0	0	0	0	0	0	10	6	0	0	0	0	0	0	0	16	0.12			
24.0	24.4	0	0	0	0	0	0	0	7	4	0	0	0	0	0	0	0	11	0.08			
24.4	24.8	0	0	0	0	0	0	0	5	5	0	0	0	0	0	0	0	10	0.07			
24.8	25.2	0	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	8	0.06			
25.2	25.6	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	8	0.06			
25.6	26.0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	6	0.04			
26.0	26.4	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	5	0.04			
26.4	26.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
26.8	27.2	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4	0.03			
27.2	27.6	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0.01			
27.6	28.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01			
28.0	28.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
28.4	28.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
28.8	29.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
29.2	29.6	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01			
29.6	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
TOTAL FREQ		138	66	37	17	24	21	33	41	1067	5421	2631	2834	667	258	251	362	13868	100.00			
PERCENT FREQ		1.0	0.5	0.3	0.1	0.2	0.2	0.2	0.3	7.7	39.1	19.0	20.4	4.8	1.9	1.8	2.6					

WIND SPEED 9M
AVERAGE
STD DEV

4.5 2.6 2.2 2.1 2.1 2.3 2.3 2.1 17.6 14.2 10.2 8.6 6.8 3.5 3.5 5.9
2.7 0.8 0.5 0.3 0.3 0.5 0.4 0.5 4.8 3.6 3.0 2.4 3.1 1.6 1.4 2.7

TABLE STATISTICS
TOTAL COUNT: 13868
MONTHLY COUNT: 22320
PERCENT RECOVERY: 62.13 %

JOINT FREQUENCY DISTRIBUTION TABLE

DEC, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)	>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	TOTAL FREQ	PERCENT FREQ
>	< 11		33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	1	2	5	0	0	0	0	0	1	0	4	7	17	32	33	27	17	24	2.18
1.6 2.0	33	14	9	11	11	18	10	10	5	5	28	15	11	33	35	16	20	303	1.30
2.0 2.4	17	7	3	7	4	3	4	5	2	2	8	11	11	30	32	24	8	180	1.02
2.4 2.8	7	9	0	0	2	4	1	2	1	3	3	3	14	28	34	24	12	141	1.05
2.8 3.2	10	9	1	0	0	1	3	1	1	3	5	8	11	30	22	29	11	124	0.89
3.2 3.6	2	4	0	0	0	0	0	2	0	0	5	8	11	23	15	14	13	96	0.69
3.6 4.0	4	1	0	0	0	1	0	0	0	0	3	8	16	26	5	18	7	86	0.62
4.0 4.4	3	0	0	0	0	0	0	0	0	0	2	5	26	11	11	21	9	87	0.63
4.4 4.8	2	0	0	0	0	0	0	0	0	0	2	3	10	19	15	11	16	89	0.64
4.8 5.2	3	1	0	0	0	0	0	0	0	0	3	16	23	14	5	14	9	87	0.63
5.2 5.6	3	0	0	0	0	0	0	0	0	0	3	10	36	25	2	8	7	93	0.67
5.6 6.0	2	0	0	0	0	0	0	0	1	6	25	44	21	5	5	8	13	125	0.90
6.0 6.4	2	0	0	0	0	0	0	0	1	13	36	75	16	3	14	6	165	1.19	
6.4 6.8	2	0	0	0	0	0	0	0	0	19	44	98	15	2	4	8	192	1.38	
6.8 7.2	0	0	0	0	0	0	0	0	0	24	64	122	18	0	3	6	237	1.71	
7.2 7.6	0	0	0	0	0	0	0	0	0	2	37	68	137	19	0	2	14	279	2.01
7.6 8.0	0	0	0	0	0	0	0	0	0	4	87	135	18	0	5	11	308	2.22	
8.0 8.4	1	0	0	0	0	0	0	0	8	64	120	165	14	0	7	20	399	2.88	
8.4 8.8	1	0	0	0	0	0	0	0	5	87	131	178	11	0	3	22	438	3.16	
8.8 9.2	4	0	0	0	0	0	0	0	7	94	134	175	6	0	1	23	444	3.20	
9.2 9.6	4	0	0	0	0	0	0	0	10	97	147	164	6	0	4	29	457	3.30	
9.6 10.0	0	0	0	0	0	0	0	0	10	102	194	158	6	0	1	14	485	3.50	
10.0 10.4	0	0	0	0	0	0	0	0	7	81	165	179	7	0	3	25	467	3.37	
10.4 10.8	0	0	0	0	0	0	0	0	7	107	152	140	6	0	1	12	425	3.06	
10.8 11.2	0	0	0	0	0	0	0	0	2	92	161	117	6	0	0	8	386	2.78	
11.2 11.6	0	0	0	0	0	0	0	0	0	4	151	146	115	7	0	0	4	427	3.08
11.6 12.0	0	0	0	0	0	0	0	0	6	156	123	58	7	0	0	3	353	2.55	
12.0 12.4	0	0	0	0	0	0	0	0	10	166	118	42	1	0	0	0	337	2.43	
12.4 12.8	0	0	0	0	0	0	0	0	6	201	85	46	3	0	0	1	342	2.47	
12.8 13.2	0	0	0	0	0	0	0	0	18	208	90	24	5	0	0	0	345	2.49	
13.2 13.6	0	0	0	0	0	0	0	0	27	191	70	29	5	0	0	0	322	2.32	
13.6 14.0	0	0	0	0	0	0	0	0	30	191	71	20	0	0	0	0	312	2.25	
14.0 14.4	0	0	0	0	0	0	0	0	28	209	55	21	2	0	0	0	315	2.27	
14.4 14.8	0	0	0	0	0	0	0	0	44	239	35	13	1	0	0	0	332	2.39	
14.8 15.2	0	0	0	0	0	0	0	0	48	204	46	12	0	0	0	0	310	2.24	
15.2 15.6	0	0	0	0	0	0	0	0	61	205	36	7	1	0	0	0	310	2.24	
15.6 16.0	0	0	0	0	0	0	0	0	79	195	30	9	3	0	0	0	313	2.26	
16.0 16.4	0	0	0	0	0	0	0	0	68	150	31	3	3	0	0	0	252	1.82	
16.4 16.8	0	0	0	0	0	0	0	0	81	162	22	5	0	0	0	0	270	1.95	
16.8 17.2	0	0	0	0	0	0	0	0	103	142	5	3	0	0	0	0	253	1.82	
17.2 17.6	0	0	0	0	0	0	0	0	97	113	5	10	0	0	0	0	215	1.55	
17.6 18.0	0	0	0	0	0	0	0	0	103	112	10	1	1	0	0	0	226	1.63	
18.0 18.4	0	0	0	0	0	0	0	0	117	87	6	1	0	0	0	0	211	1.52	
18.4 18.8	0	0	0	0	0	0	0	0	142	100	6	0	0	0	0	0	248	1.79	
18.8 19.2	0	0	0	0	0	0	0	0	116	80	1	1	1	0	0	0	198	1.43	
19.2 19.6	0	0	0	0	0	0	0	0	118	73	1	2	0	0	0	0	200	1.44	
19.6 20.0																			

TABLE D-11

JOINT FREQUENCY DISTRIBUTION TABLE

DEC, 1985

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

>= 348 < 11		WIND_DIRECTION_30M RANGE (M/S)																TOTAL FREQ		PERCENT FREQ	
		WIND_DIRECTION_30M RANGE (M/S)																			
2ND PARAM	2ND PARAM	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348			
>	<	0	0	0	0	0	0	0	154	70	1	0	0	0	0	0	0	225			
20.0 20.4	20.0 20.4	0	0	0	0	0	0	0	125	62	5	0	0	0	0	0	0	192			
20.4 20.8	20.4 20.8	0	0	0	0	0	0	0	128	38	1	0	0	0	0	0	0	167			
20.8 21.2	20.8 21.2	0	0	0	0	0	0	0	93	36	1	0	0	0	0	0	0	130			
21.2 21.6	21.2 21.6	0	0	0	0	0	0	0	104	32	1	0	0	0	0	0	0	137			
21.6 22.0	21.6 22.0	0	0	0	0	0	0	0	81	20	1	0	0	0	0	0	0	102			
22.0 22.4	22.0 22.4	0	0	0	0	0	0	0	84	15	0	0	0	0	0	0	0	99			
22.4 22.8	22.4 22.8	0	0	0	0	0	0	0	62	14	1	0	0	0	0	0	0	77			
22.8 23.2	22.8 23.2	0	0	0	0	0	0	0	52	9	0	0	0	0	0	0	0	61			
23.2 23.6	23.2 23.6	0	0	0	0	0	0	0	29	12	1	0	0	0	0	0	0	42			
23.6 24.0	23.6 24.0	0	0	0	0	0	0	0	42	9	0	0	0	0	0	0	0	51			
24.0 24.4	24.0 24.4	0	0	0	0	0	0	0	39	3	0	0	0	0	0	0	0	42			
24.4 24.8	24.4 24.8	0	0	0	0	0	0	0	29	9	0	0	0	0	0	0	0	38			
24.8 25.2	24.8 25.2	0	0	0	0	0	0	0	25	0	0	0	0	0	0	0	0	25			
25.2 25.6	25.2 25.6	0	0	0	0	0	0	0	27	1	0	0	0	0	0	0	0	28			
25.6 26.0	25.6 26.0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	21			
26.0 26.4	26.0 26.4	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	8			
26.4 26.8	26.4 26.8	0	0	0	0	0	0	0	13	1	0	0	0	0	0	0	0	16			
26.8 27.2	26.8 27.2	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	14			
27.2 27.6	27.2 27.6	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	9			
27.6 28.0	27.6 28.0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3			
28.0 28.4	28.0 28.4	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	0	5			
28.4 28.8	28.4 28.8	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3			
28.8 29.2	28.8 29.2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1			
29.2 29.6	29.2 29.6	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2			
29.6 30.0	29.6 30.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4			
30.0 30.4	30.0 30.4	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3			
30.4 30.8	30.4 30.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
30.8 31.2	30.8 31.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
31.2 31.6	31.2 31.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
31.6 32.0	31.6 32.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
32.0 32.4	32.0 32.4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1			
32.4 32.8	32.4 32.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
32.8 50.0	32.8 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
TOTAL FREQ		98	47	18	17	27	18	20	2563	4598	2639	2508	469	216	269	343		13868			
PERCENT FREQ		0.7	0.3	0.1	0.1	0.1	0.2	0.1	0.1	18.5	33.2	19.0	18.1	3.4	1.6	1.9		100.00			

WIND SPEED 30M

AVERAGE 3.3 2.5 1.8 1.9 1.9 2.1 2.1 2.1 19.4 14.5 11.0 9.4 5.8 3.2 4.4 7.1
 STD DEV 2.1 0.7 0.4 0.2 0.3 0.5 0.5 0.5 0.5 4.0 3.8 3.0 2.6 3.2 1.2 2.2 3.1

TABLE STATISTICS

TOTAL COUNT: 13868
 MONTHLY COUNT: 22320
 PERCENT RECOVERY: 62.13 %

TABLE D-11 (CONTINUED)

DEC. 1985

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND_DIRECTION_46W_RANGE (DEG)																			
>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL	PERCENT
< 11		33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	FREQ	FREQ	
2ND		PARAM																	
RANGE (M/S)		RANGE (M/S)																	
>	<=																		
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	
1.2	1.6	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	1.85	
1.6	2.0	12	15	15	4	12	7	9	12	10	21	20	27	25	26	26	256	1.15	
2.0	2.4	18	7	3	4	3	2	3	9	7	5	8	6	26	31	15	10	135	
2.4	2.8	15	11	1	1	0	3	2	1	5	5	6	8	32	21	14	156	1.12	
2.8	3.2	6	11	0	0	1	1	1	2	4	9	8	12	46	32	21	119	0.86	
3.2	3.6	7	3	0	0	0	0	0	0	2	8	11	31	21	27	8	98	0.71	
3.6	4.0	6	1	0	0	0	0	0	0	2	8	12	31	15	17	12	79	0.57	
4.0	4.4	2	2	0	0	0	0	0	0	2	4	10	26	4	14	15	78	0.56	
4.4	4.8	4	3	1	0	0	0	0	0	2	6	24	17	5	15	7	96	0.69	
4.8	5.2	5	1	0	0	0	0	1	1	1	7	27	15	10	16	12	76	0.55	
5.2	5.6	3	0	0	0	0	0	0	0	0	10	19	10	6	12	15	80	0.58	
5.6	6.0	3	0	0	0	0	0	0	0	2	7	29	15	2	9	13	93	0.67	
6.0	6.4	2	0	0	0	0	0	0	1	8	17	32	16	6	2	9	126	0.91	
6.4	6.8	2	0	0	0	0	0	0	0	0	24	50	22	2	9	13	177	1.28	
6.8	7.2	3	0	0	0	0	0	0	0	12	36	84	23	1	9	9	181	1.31	
7.2	7.6	1	0	0	0	0	0	0	0	17	30	99	21	1	1	11	253	1.82	
7.6	8.0	0	0	0	0	0	0	0	1	20	63	159	18	0	1	10	275	1.98	
8.0	8.4	2	0	0	0	0	0	0	0	0	45	71	169	25	0	13	323	2.33	
8.4	8.8	0	0	0	0	0	0	0	0	1	84	186	23	0	2	18	372	2.68	
8.8	9.2	3	0	0	0	0	0	0	1	55	102	207	15	0	0	28	424	3.06	
9.2	9.6	3	0	0	0	0	0	0	2	85	114	211	10	0	0	26	451	3.25	
9.6	10.0	3	0	0	0	0	0	0	4	73	124	215	5	0	0	27	453	3.27	
10.0	10.4	5	0	0	0	0	0	0	4	68	138	229	17	0	0	19	474	3.42	
10.4	10.8	1	0	0	0	0	0	0	4	74	140	253	13	0	0	21	433	3.12	
10.8	11.2	6	0	0	0	0	0	0	1	55	119	213	18	0	0	14	374	2.70	
11.2	11.6	0	0	0	0	0	0	0	3	62	119	163	13	0	0	8	408	2.94	
11.6	12.0	0	0	0	0	0	0	0	94	140	153	13	0	0	0	5	398	2.87	
12.0	12.4	0	0	0	0	0	0	0	0	99	138	141	15	0	0	3	361	2.60	
12.4	12.8	0	0	0	0	0	0	0	0	119	126	101	12	0	0	3	330	2.38	
12.8	13.2	0	0	0	0	0	0	0	1	130	104	92	3	0	0	0	284	2.05	
13.2	13.6	0	0	0	0	0	0	0	1	132	92	52	6	0	0	1	335	2.42	
13.6	14.0	0	0	0	0	0	0	0	1	176	123	29	6	0	0	0	291	2.10	
14.0	14.4	0	0	0	0	0	0	0	2	170	84	29	6	0	0	0	281	2.03	
14.4	14.8	0	0	0	0	0	0	0	3	186	69	35	1	0	0	0	284	2.05	
14.8	15.2	0	0	0	0	0	0	0	4	217	55	20	6	0	0	0	302	2.18	
15.2	15.6	0	0	0	0	0	0	0	0	53	20	4	4	0	0	0	300	2.16	
15.6	16.0	0	0	0	0	0	0	0	2	221	53	10	4	0	0	0	286	2.06	
16.0	16.4	0	0	0	0	0	0	0	0	7	212	53	4	0	0	0	302	2.18	
16.4	16.8	0	0	0	0	0	0	0	13	224	53	9	3	0	0	0	279	2.01	
16.8	17.2	0	0	0	0	0	0	0	15	221	32	10	1	0	0	0	269	1.94	
17.2	17.6	0	0	0	0	0	0	0	18	212	33	6	0	0	0	0	279	2.01	
17.6	18.0	0	0	0	0	0	0	0	23	225	27	4	0	0	0	0	239	1.72	
18.0	18.4	0	0	0	0	0	0	0	17	203	19	0	0	0	0	0	220	1.59	
18.4	18.8	0	0	0	0	0	0	0	29	177	9	5	0	0	0	0	228	1.64	
18.8	19.2	0	0	0	0	0	0	0	25	192	10	1	0	0	0	0	233	1.64	
19.2	19.6	0	0	0	0	0	0	0	26	165	11	2	0	0	0	0	227	1.64	
19.6	20.0	0	0	0	0	0	0	0	41	168	18	0	0	0	0	0	227	1.64	

TABLE D-12

JOINT FREQUENCY DISTRIBUTION TABLE

DEC, 1985

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

>=		348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL	PERCENT
<		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		FREQ	FREQ
PARAM RANGE (M/S)																				
>		<=																		
20.0 20.4		0	0	0	0	0	0	0	0	0	38	165	6	1	0	0	0	0	210	1.51
20.4 20.8		0	0	0	0	0	0	0	0	0	32	159	4	1	0	0	0	0	196	1.41
20.8 21.2		0	0	0	0	0	0	0	0	0	45	146	7	0	0	0	0	0	198	1.43
21.2 21.6		0	0	0	0	0	0	0	0	0	52	131	6	0	0	0	0	0	189	1.36
21.6 22.0		0	0	0	0	0	0	0	0	0	45	114	5	0	0	0	0	0	164	1.18
22.0 22.4		0	0	0	0	0	0	0	0	0	34	111	1	0	0	0	0	0	146	1.05
22.4 22.8		0	0	0	0	0	0	0	0	0	45	86	4	0	0	0	0	0	135	0.97
22.8 23.2		0	0	0	0	0	0	0	0	0	40	61	5	0	0	0	0	0	106	0.76
23.2 23.6		0	0	0	0	0	0	0	0	0	45	66	2	0	0	0	0	0	113	0.81
23.6 24.0		0	0	0	0	0	0	0	0	0	37	54	1	0	0	0	0	0	92	0.66
24.0 24.4		0	0	0	0	0	0	0	0	0	23	49	2	0	0	0	0	0	74	0.53
24.4 24.8		0	0	0	0	0	0	0	0	0	26	32	1	0	0	0	0	0	59	0.43
24.8 25.2		0	0	0	0	0	0	0	0	0	22	27	1	0	0	0	0	0	50	0.36
25.2 25.6		0	0	0	0	0	0	0	0	0	22	12	0	0	0	0	0	0	34	0.25
25.6 26.0		0	0	0	0	0	0	0	0	0	28	21	0	0	0	0	0	0	49	0.35
26.0 26.4		0	0	0	0	0	0	0	0	0	26	14	0	0	0	0	0	0	40	0.29
26.4 26.8		0	0	0	0	0	0	0	0	0	27	10	0	0	0	0	0	0	37	0.27
26.8 27.2		0	0	0	0	0	0	0	0	0	11	5	0	0	0	0	0	0	16	0.12
27.2 27.6		0	0	0	0	0	0	0	0	0	12	6	0	0	0	0	0	0	18	0.13
27.6 28.0		0	0	0	0	0	0	0	0	0	14	5	0	0	0	0	0	0	19	0.14
28.0 28.4		0	0	0	0	0	0	0	0	0	10	3	0	0	0	0	0	0	13	0.09
28.4 28.8		0	0	0	0	0	0	0	0	0	7	8	0	0	0	0	0	0	15	0.11
28.8 29.2		0	0	0	0	0	0	0	0	0	8	3	0	0	0	0	0	0	11	0.08
29.2 29.6		0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	4	0.03
29.6 30.0		0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	7	0.05
30.0 30.4		0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	5	0.04
30.4 30.8		0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	5	0.04
30.8 31.2		0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	0.02
31.2 31.6		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01
31.6 32.0		0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.01
32.0 32.4		0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4	0.03
32.4 32.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
32.8 33.2		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3	0.02
33.2 33.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
33.6 34.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
34.0 34.4		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
34.4 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ		110	52	20	20	7	18	19	16	935	5649	2554	3061	610	183	219	395	13868	100.00	
PERCENT FREQ		0.8	0.4	0.1	0.1	0.1	0.1	0.1	0.1	6.7	40.7	18.4	22.1	4.4	1.3	1.6	2.9			

WIND SPEED 46M

AVERAGE 4.7 2.6 1.8 1.9 2.0 2.0 2.3 2.3 2.1 4.6 16.8 12.0 10.0 7.0 3.2 3.9 7.2

STD DEV 3.0 0.8 0.2 0.2 0.2 0.4 0.8 0.8 0.8 4.9 4.3 3.5 2.6 3.7 1.3 1.6 3.2

TABLE STATISTICS

TOTAL COUNT: 13868

MONTHLY COUNT: 22320

PERCENT RECOVERY: 62.13 %

TABLE D-12 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

MAR, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)		WIND_DIRECTION_9M RANGE (DEG)																		TOTAL FREQ	PERCENT FREQ
>	<	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348	
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1.6	2.0	15	11	5	9	7	9	11	6	2	3	3	5	13	5	3	3	9	11	117	
2.0	2.4	2	3	0	1	2	0	4	3	13	4	4	12	8	3	3	2	2	0	61	
2.4	2.8	1	2	0	0	1	0	5	7	7	4	2	7	7	4	3	2	0	0	55	
2.8	3.2	0	0	0	0	0	0	0	2	4	2	7	7	4	8	10	4	1	1	32	
3.2	3.6	0	0	0	0	0	0	0	1	5	0	4	4	4	3	3	2	4	5	41	
3.6	4.0	0	0	0	0	0	0	0	0	3	4	0	3	6	3	3	1	4	4	24	
4.0	4.4	0	0	1	0	0	0	0	0	0	0	0	4	13	6	2	2	6	3	35	
4.4	4.8	0	0	0	0	0	0	0	0	1	2	2	8	12	7	3	3	3	7	43	
4.8	5.2	0	0	0	0	0	0	0	0	0	0	0	10	13	5	3	3	3	7	39	
5.2	5.6	0	0	0	0	0	0	0	0	0	0	2	22	26	6	3	3	3	7	70	
5.6	6.0	0	0	0	0	0	0	0	0	0	1	3	24	20	10	6	4	1	1	79	
6.0	6.4	0	0	0	0	0	0	0	0	0	1	10	29	23	10	6	3	4	1	78	
6.4	6.8	0	0	0	0	0	0	0	0	0	2	10	29	20	6	3	3	5	6	78	
6.8	7.2	0	0	0	0	0	0	0	0	0	3	13	41	29	19	1	1	2	2	91	
7.2	7.6	0	0	0	0	0	0	0	0	0	3	5	30	31	16	5	3	2	2	117	
7.6	8.0	0	0	0	0	0	0	0	0	0	0	7	24	20	18	2	2	3	2	95	
8.0	8.4	0	0	0	0	0	0	0	0	0	1	3	28	29	12	0	1	4	4	76	
8.4	8.8	0	0	0	0	0	0	0	0	0	1	2	16	20	27	1	2	2	0	71	
8.8	9.2	0	0	0	0	0	0	0	0	0	0	9	20	15	21	2	0	0	0	67	
9.2	9.6	0	0	0	0	0	0	0	0	0	0	4	28	31	16	7	0	1	1	87	
9.6	10.0	0	0	0	0	0	0	0	0	0	0	5	24	26	24	3	0	4	4	86	
10.0	10.4	0	0	0	0	0	0	0	0	0	0	1	34	27	34	2	2	0	0	100	
10.4	10.8	0	0	0	0	0	0	0	0	0	0	10	35	26	25	3	0	1	1	100	
10.8	11.2	0	0	0	0	0	0	0	0	0	0	11	36	27	27	1	0	3	3	105	
11.2	11.6	0	0	0	0	0	0	0	0	0	0	23	37	18	25	2	0	5	5	110	
11.6	12.0	0	0	0	0	0	0	0	0	0	0	23	27	20	24	0	0	2	2	89	
12.0	12.4	0	0	0	0	0	0	0	0	0	2	14	27	7	25	0	0	3	3	85	
12.4	12.8	0	0	0	0	0	0	0	0	0	0	23	21	11	12	0	0	0	0	71	
12.8	13.2	0	0	0	0	0	0	0	0	0	0	24	21	11	13	0	0	4	4	84	
13.2	13.6	0	0	0	0	0	0	0	0	0	0	29	27	11	9	0	0	0	0	63	
13.6	14.0	0	0	0	0	0	0	0	0	0	0	29	15	6	9	0	0	4	4	43	
14.0	14.4	0	0	0	0	0	0	0	0	0	1	27	9	2	3	0	0	0	1	169	
14.4	14.8	0	0	0	0	0	0	0	0	0	0	24	10	4	4	0	0	0	0	42	
14.8	15.2	0	0	0	0	0	0	0	0	0	1	29	6	0	3	0	0	0	0	31	
15.2	15.6	0	0	0	0	0	0	0	0	0	0	24	7	0	1	0	0	0	0	42	
15.6	16.0	0	0	0	0	0	0	0	0	0	0	27	2	1	1	0	0	0	0	37	
16.0	16.4	0	0	0	0	0	0	0	0	0	0	25	1	1	1	0	0	0	0	31	
16.4	16.8	0	0	0	0	0	0	0	0	0	0	34	3	0	0	0	0	0	0	28	
16.8	17.2	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	37	
17.2	17.6	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	11	
17.6	18.0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	16	
18.0	18.4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	12	
18.4	18.8	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	
18.8	19.2	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	5	
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
19.6	20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

TABLE D-13

JOINT FREQUENCY DISTRIBUTION TABLE MAR, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)																	TOTAL FREQ	PERCENT FREQ
>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326		
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
>																		
<=																		
20.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	18	16	6	10	10	9	20	19	56	506	663	529	446	79	52	108	2547	100.00
PERCENT FREQ	0.7	0.6	0.2	0.4	0.4	0.4	0.8	0.8	2.2	19.9	26.0	20.8	17.5	3.1	2.0	4.2		

WIND_SPEED_9M

AVERAGE	1.9	2.0	2.2	1.9	2.0	1.8	2.1	2.4	5.2	12.6	9.2	8.2	9.1	6.0	5.0	7.0		
STD DEV	0.2	0.3	0.9	1.0	0.2	1.0	0.3	0.5	4.0	3.7	3.0	2.9	2.9	2.8	2.3	3.6		

TABLE STATISTICS

TOTAL COUNT: 2547
MONTHLY COUNT: 22320
PERCENT RECOVERY: 11.41 %

TABLE D-13 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

MAR, 1986

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

2ND PARAM RANGE (M/S)		WIND_DIRECTION_30M RANGE (DEG)																TOTAL FREQ	PERCENT FREQ										
		>= 348		11 33		56 78		101 123		123 146		146 168		168 191		191 213				213 236		236 258		258 281		281 303		303 326		326 348
>	<=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8	1.2	4	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.2	1.6	4	4	1	1	1	1	2	0	4	5	5	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.6	2.0	4	4	1	1	1	1	4	0	4	4	4	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	2.4	1	1	0	0	0	0	0	0	11	7	6	5	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2.4	2.8	1	0	0	0	1	0	0	0	9	7	9	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
2.8	3.2	0	0	0	0	0	0	0	0	5	5	5	2	5	3	5	2	5	3	5	2	5	3	3	3	2	2	2	2
3.2	3.6	0	0	0	0	0	0	0	0	1	1	4	4	4	4	5	3	5	3	5	2	5	3	3	3	2	2	2	2
3.6	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.0	4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.4	4.8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.8	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.2	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.6	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.0	6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.4	6.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.8	7.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.2	7.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.6	8.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.0	8.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.4	8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.8	9.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.2	9.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9.6	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.0	10.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.4	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10.8	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.2	11.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11.6	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	12.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.4	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.8	13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.2	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13.6	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	14.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.4	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14.8	15.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.2	15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.6	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0	16.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.4	16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.8	17.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.2	17.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17.6	18.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0	18.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.4	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.8	19.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19.6	20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE D-14

JOINT FREQUENCY DISTRIBUTION TABLE

MAR, 1986

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)																																							
>=		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ		PERCENT FREQ	
<		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348							
>		0		0		0		0		0		0		0		0		1		5		0		0		0		0		0		0		6		0.24			
20.0 20.4		0		0		0		0		0		0		0		0		1		3		0		0		0		0		0		0		4		0.16			
20.4 20.8		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
20.8 21.2		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
21.2 21.6		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
21.6 22.0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
22.0 22.4		0		0		0		0		0		0		0		0		0		1		0		0		0		0		0		1		0.04					
22.4 50.0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0.00			
TOTAL FREQ		10		9		2		5		1		2		12		17		42		596		665		545		407		63		63		101		2540		100.00			
PERCENT FREQ		0.4		0.4		0.1		0.2		0.0		0.1		0.5		0.7		1.7		23.5		26.2		21.5		16.0		2.5		2.5		4.0							
WIND SPEED 30M																																							
AVERAGE		1.8		2.0		2.0		1.7		1.7		2.1		2.2		2.2		8.3		13.4		10.1		9.3		9.9		4.7		5.4		8.2							
STD DEV		0.4		1.0		1.0		0.5		0.0		0.1		0.4		0.6		5.6		4.5		3.4		3.1		3.2		2.6		3.1		4.1							

TABLE STATISTICS

TOTAL COUNT: 2540
 MONTHLY COUNT: 22320
 PERCENT RECOVERY: 11.38 %

JOINT FREQUENCY DISTRIBUTION TABLE

MAR, 1986

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)	>=																TOTAL FREQ	PERCENT FREQ				
	>	<	348	11	33	56	78	101	123	146	168	191	213	236	258	281			303	326	348	
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
1.6	2.0	3	2	0	1	1	1	1	3	4	4	3	2	4	4	10	5	2	4	4	49	1.98
2.0	2.4	2	1	4	0	0	0	0	2	5	2	16	15	7	2	6	8	5	3	3	69	2.79
2.4	2.8	0	0	0	0	0	0	0	0	4	4	5	7	4	4	5	4	1	1	3	38	1.53
2.8	3.2	0	0	0	0	0	0	0	0	0	0	11	7	3	3	3	2	1	0	0	36	1.45
3.2	3.6	0	0	2	0	0	0	0	0	0	0	7	7	5	1	1	4	2	3	3	29	1.17
3.6	4.0	0	0	0	0	0	0	0	0	0	0	1	1	7	1	3	3	2	0	0	16	0.65
4.0	4.4	0	0	0	0	0	0	0	0	0	0	2	6	4	1	3	3	1	4	23	0.93	
4.4	4.8	0	0	0	0	0	0	0	0	0	0	3	3	6	7	3	3	1	1	1	25	1.01
4.8	5.2	0	0	0	0	0	0	0	0	0	0	1	2	5	11	2	2	2	1	1	28	1.13
5.2	5.6	0	0	0	0	0	0	0	0	0	0	1	1	3	5	5	5	4	2	3	26	1.05
5.6	6.0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	2	2	2	7	3	21	0.85
6.0	6.4	0	0	0	0	0	0	0	0	0	0	1	3	12	6	3	2	2	3	5	41	1.66
6.4	6.8	0	0	0	0	0	0	0	0	0	0	2	7	14	6	1	1	1	2	3	57	2.30
6.8	7.2	0	0	0	0	0	0	0	0	0	0	0	9	18	35	11	2	2	7	7	81	3.35
7.2	7.6	0	0	0	0	0	0	0	0	0	0	0	18	27	37	13	2	5	5	2	89	3.59
7.6	8.0	0	0	0	0	0	0	0	0	0	0	1	9	21	32	18	2	2	2	2	89	3.59
8.0	8.4	0	0	0	0	0	0	0	0	0	0	0	5	26	31	21	1	1	4	4	89	3.59
8.4	8.8	0	0	0	0	0	0	0	0	0	0	1	7	29	28	15	0	2	3	3	85	3.43
8.8	9.2	0	0	0	0	0	0	0	0	0	0	1	4	18	21	18	1	1	4	4	85	3.43
9.2	9.6	0	0	0	0	0	0	0	0	0	0	1	7	25	24	16	1	1	1	1	83	3.35
9.6	10.0	0	0	0	0	0	0	0	0	0	0	0	11	25	28	16	1	0	0	0	70	2.83
10.0	10.4	0	0	0	0	0	0	0	0	0	0	0	7	20	24	15	1	0	0	0	66	2.66
10.4	10.8	0	0	0	0	0	0	0	0	0	0	0	7	19	29	18	2	1	2	2	78	3.15
10.8	11.2	0	0	0	0	0	0	0	0	0	0	0	5	17	24	26	1	0	0	0	73	2.95
11.2	11.6	0	0	0	0	0	0	0	0	0	0	0	4	28	25	19	0	0	0	3	79	3.19
11.6	12.0	0	0	0	0	0	0	0	0	0	0	0	5	33	21	24	0	1	3	3	87	3.51
12.0	12.4	0	0	0	0	0	0	0	0	0	0	0	10	27	21	27	0	0	1	1	86	3.47
12.4	12.8	0	0	0	0	0	0	0	0	0	0	0	17	41	25	24	0	0	0	0	108	4.36
12.8	13.2	0	0	0	0	0	0	0	0	0	0	0	11	30	14	21	0	0	0	2	78	3.15
13.2	13.6	0	0	0	0	0	0	0	0	0	0	0	18	30	12	16	0	0	3	3	79	3.19
13.6	14.0	0	0	0	0	0	0	0	0	0	0	0	19	29	13	18	0	0	0	1	80	3.23
14.0	14.4	0	0	0	0	0	0	0	0	0	0	0	30	21	11	18	0	0	5	5	86	3.47
14.4	14.8	0	0	0	0	0	0	0	0	0	0	0	29	25	10	7	0	0	3	3	76	3.07
14.8	15.2	0	0	0	0	0	0	0	0	0	0	0	15	20	7	4	0	0	5	50	2.02	
15.2	15.6	0	0	0	0	0	0	0	0	0	0	0	21	14	0	5	0	0	4	44	1.78	
15.6	16.0	0	0	0	0	0	0	0	0	0	0	0	23	9	1	4	0	0	1	39	1.57	
16.0	16.4	0	0	0	0	0	0	0	0	0	0	0	24	10	2	1	0	0	2	40	1.61	
16.4	16.8	0	0	0	0	0	0	0	0	0	0	0	27	6	0	1	0	0	0	0	34	1.37
16.8	17.2	0	0	0	0	0	0	0	0	0	0	0	28	6	0	1	0	0	0	0	35	1.41
17.2	17.6	0	0	0	0	0	0	0	0	0	0	0	29	5	0	1	0	0	0	0	35	1.41
17.6	18.0	0	0	0	0	0	0	0	0	0	0	0	24	1	0	1	0	0	0	0	26	1.05
18.0	18.4	0	0	0	0	0	0	0	0	0	0	0	27	1	0	0	0	0	0	0	28	1.13
18.4	18.8	0	0	0	0	0	0	0	0	0	0	0	15	2	2	0	0	0	0	0	19	0.77
18.8	19.2	0	0	0	0	0	0	0	0	0	0	0	20	1	0	0	0	0	0	0	22	0.89
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13	0.52
19.6	20.0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	0.24

TABLE D-15

JOINT FREQUENCY DISTRIBUTION TABLE

MAR, 1986

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)	>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
>	>=	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8	0.32
20.4 20.8	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	0.28
20.8 21.2	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	3	0.12
21.2 21.6	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	0.08
21.6 22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
22.0 22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
22.4 22.8	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.04
22.8 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	5	4	8	1	2	1	5	13	32	574	653	544	428	61	46	100	2477	100.00		
PERCENT FREQ	0.2	0.2	0.3	0.0	0.1	0.0	0.2	0.5	1.3	23.2	26.4	22.0	17.3	2.5	1.9	4.0				

WIND SPEED 46M

AVERAGE	2.2	2.6	3.2	1.8	2.4	1.8	2.1	2.2	7.1	13.8	10.8	9.5	10.3	4.8	6.1	8.9
STD DEV	0.4	1.5	1.3	0.0	0.6	0.0	0.2	0.3	6.1	4.8	3.6	3.0	3.3	2.5	2.7	4.2

TABLE STATISTICS

TOTAL COUNT: 2477
MONTHLY COUNT: 22320
PERCENT RECOVERY: 11.10 %

JOINT FREQUENCY DISTRIBUTION TABLE

APR, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)	>= 348		11 33 56 78 101 123 146 168 191 213 236 258 281 303 326 348		TOTAL FREQ		PERCENT FREQ	
	>	<	11 33 56 78 101 123 146 168 191 213 236 258 281 303 326 348					
0.0 0.4	0	0	0	0	0	0	0	0.01
0.4 0.8	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	1	0.01
1.6 2.0	87	69	113	131	152	159	128	1573
2.0 2.4	65	76	65	111	120	77	66	1150
2.4 2.8	45	60	63	56	93	53	43	824
2.8 3.2	37	21	46	51	65	55	48	688
3.2 3.6	32	28	24	28	56	57	23	648
3.6 4.0	30	31	37	52	51	48	22	710
4.0 4.4	15	24	49	39	52	33	13	671
4.4 4.8	30	26	61	39	48	42	14	691
4.8 5.2	34	26	50	45	56	39	5	700
5.2 5.6	32	25	20	56	50	57	5	710
5.6 6.0	38	16	21	61	62	55	7	671
6.0 6.4	25	18	12	57	57	53	9	700
6.4 6.8	26	8	20	61	73	40	9	759
6.8 7.2	28	5	16	67	91	21	6	786
7.2 7.6	23	4	11	52	95	22	8	831
7.6 8.0	12	0	17	64	89	6	2	815
8.0 8.4	14	0	18	76	89	0	0	881
8.4 8.8	4	2	14	94	81	0	0	4.12
8.8 9.2	9	0	15	127	70	0	1	776
9.2 9.6	10	0	10	109	40	0	0	712
9.6 10.0	6	0	5	86	32	0	0	3.75
10.0 10.4	8	0	7	75	24	0	0	3.46
10.4 10.8	1	0	7	71	39	0	0	3.04
10.8 11.2	3	0	1	80	20	0	0	472
11.2 11.6	2	0	6	73	29	0	0	2.23
11.6 12.0	1	0	6	62	18	0	0	2.04
12.0 12.4	1	0	5	51	14	0	0	1.72
12.4 12.8	2	0	0	35	6	0	0	1.63
12.8 13.2	0	0	5	23	4	0	0	1.31
13.2 13.6	0	0	0	8	3	0	0	1.29
13.6 14.0	0	0	0	1	1	0	0	0.85
14.0 14.4	0	0	0	1	0	0	0	0.61
14.4 14.8	0	0	0	1	0	0	0	0.48
14.8 15.2	0	0	0	0	0	0	0	0.29
15.2 15.6	0	0	0	0	0	0	0	0.21
15.6 16.0	0	0	0	0	0	0	0	0.18
16.0 16.4	0	0	0	0	0	0	0	0.11
16.4 16.8	0	0	0	0	0	0	0	0.06
16.8 17.2	0	0	0	0	0	0	0	0.03
17.2 17.6	0	0	0	0	0	0	0	0.02
17.6 18.0	0	0	0	0	0	0	0	0.04
18.0 18.4	0	0	0	0	0	0	0	0.06
18.4 18.8	0	0	0	0	0	0	0	0.07
18.8 19.2	0	0	0	0	0	0	0	0.04
19.2 19.6	0	0	0	0	0	0	0	0.04
19.6 20.0	0	0	0	0	0	0	0	0.03
								0.02

TABLE D-16

JOINT FREQUENCY DISTRIBUTION TABLE APR, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM	WIND_DIRECTION_9M RANGE (DEG)																TOTAL FREQ	PERCENT FREQ
	>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	
	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	
RANGE (M/S)																		
>																		
=<																		
20.0 20.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 0.01
20.4 20.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 0.01
20.8 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0.00
TOTAL FREQ		620	439	725	1943	1681	817	409	212	1088	2134	2409	3150	1517	652	383	790	18969 100.00
PERCENT FREQ		3.3	2.3	3.8	10.2	8.9	4.3	2.2	1.1	5.7	11.3	13.0	16.6	8.0	3.4	2.0	4.2	

WIND SPEED 9M

AVERAGE	4.7	3.5	4.6	7.4	6.0	4.0	3.1	2.7	6.8	7.7	6.1	7.3	7.2	5.8	3.3	6.1
STD DEV	2.4	1.5	2.6	3.3	2.9	1.8	1.5	1.1	3.8	3.8	2.4	2.8	2.9	2.6	1.5	3.4

TABLE STATISTICS

TOTAL COUNT: 18969
MONTHLY COUNT: 21600
PERCENT RECOVERY: 87.82 %

APR. 1986

TABLE D-17

JOINT FREQUENCY DISTRIBUTION TABLE

APR, 1986

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

>=		<		348		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL		PERCENT	
>		<		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		FREQ		FREQ			
PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM		PARAM			
2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND		2ND			
RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)		RANGE (M/S)			
20.0	20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0.05			
20.4	20.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.04			
20.8	21.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0.06			
21.2	21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.04			
21.6	22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.03			
22.0	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.04			
22.4	22.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.03			
22.8	23.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01			
23.2	23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
23.6	24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
24.0	24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.01			
24.4	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00			
TOTAL FREQ		573	440	741	2301	1515	557	199	189	1297	2026	2434	3395	1540	572	383	867	19029	100.00																						
PERCENT FREQ		3.0	2.3	3.9	12.1	8.0	3.0	1.1	1.0	6.8	10.7	12.8	17.8	8.1	3.0	2.0	4.6																								

WIND SPEED 30M

AVERAGE 4.7 3.7 5.1 8.1 6.1 4.6 2.9 3.0 8.9 8.5 6.9 7.9 7.5 5.5 3.4 6.9
 STD DEV 2.3 1.8 3.2 3.7 3.1 2.2 1.5 1.6 4.3 4.4 2.8 3.2 3.2 2.8 1.9 3.9

TABLE STATISTICS

TOTAL COUNT: 19029
 MONTHLY COUNT: 21600
 PERCENT RECOVERY: 88.10 %

TABLE D-17 (CONTINUED)

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46N RANGE (DEG)

2ND PARAM		RANGE (M/S)																TOTAL FREQ		PERCENT FREQ	
		>=				<				>=				<							
>	<	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348	
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
1.6	2.0	65	83	114	102	105	53	40	56	69	80	86	58	57	68	73	72	191	6.30	6.30	
2.0	2.4	46	72	67	81	86	43	27	38	32	45	72	66	75	41	45	64	937	4.95	4.95	
2.4	2.8	37	35	58	77	61	34	15	30	42	46	67	52	77	52	30	49	705	3.73	3.73	
2.8	3.2	30	37	56	63	61	43	17	15	41	43	41	60	41	32	17	29	626	3.31	3.31	
3.2	3.6	21	26	22	41	53	27	17	6	24	29	61	73	57	25	36	35	553	2.92	2.92	
3.6	4.0	27	12	28	28	53	25	10	6	25	49	58	68	41	23	37	24	514	2.72	2.72	
4.0	4.4	41	17	26	40	22	34	7	6	24	33	64	94	55	23	22	19	527	2.79	2.79	
4.4	4.8	22	18	30	40	40	25	6	8	20	40	87	139	55	32	18	23	603	3.19	3.19	
4.8	5.2	17	28	37	42	54	16	4	3	19	29	87	166	43	22	17	20	604	3.19	3.19	
5.2	5.6	21	23	48	44	52	6	4	7	26	26	109	161	43	23	10	21	624	3.30	3.30	
5.6	6.0	29	16	29	47	54	7	3	6	21	33	120	148	48	24	4	17	606	3.20	3.20	
6.0	6.4	22	18	10	60	74	13	2	3	19	43	110	140	60	17	3	9	603	3.19	3.19	
6.4	6.8	32	13	15	63	103	26	5	3	20	64	102	138	56	15	4	16	675	3.57	3.57	
6.8	7.2	38	15	11	49	97	41	0	3	18	76	132	121	71	27	4	23	693	3.66	3.66	
7.2	7.6	28	5	11	64	73	37	0	3	15	68	112	121	64	25	2	22	683	3.61	3.61	
7.6	8.0	25	5	9	59	98	38	1	1	21	85	134	140	80	29	1	37	763	4.03	4.03	
8.0	8.4	17	2	9	56	68	14	1	1	19	80	120	159	75	23	2	23	669	3.54	3.54	
8.4	8.8	16	0	13	67	85	2	3	2	20	99	146	176	66	24	1	22	742	3.92	3.92	
8.8	9.2	14	1	12	90	88	2	0	0	26	89	146	166	62	12	2	28	755	3.99	3.99	
9.2	9.6	4	2	8	107	52	0	1	0	20	78	94	166	62	23	2	31	646	3.41	3.41	
9.6	10.0	4	1	9	110	49	0	0	0	43	85	88	138	79	9	0	33	648	3.43	3.43	
10.0	10.4	2	2	0	98	24	0	0	0	44	98	60	130	72	13	1	31	580	3.07	3.07	
10.4	10.8	1	0	10	105	15	0	0	0	43	73	73	114	63	7	0	16	519	2.74	2.74	
10.8	11.2	3	0	5	81	18	0	0	0	51	64	42	112	45	10	0	28	459	2.43	2.43	
11.2	11.6	0	0	5	80	18	0	0	0	47	60	28	119	48	4	1	20	430	2.27	2.27	
11.6	12.0	0	0	4	76	18	0	0	0	50	39	22	72	31	3	1	22	338	1.79	1.79	
12.0	12.4	0	0	4	85	14	0	0	0	59	41	12	98	36	2	0	20	371	1.96	1.96	
12.4	12.8	0	0	4	80	21	0	0	0	51	30	23	84	32	1	0	19	345	1.82	1.82	
12.8	13.2	0	0	4	81	24	0	0	0	47	27	18	67	22	1	0	20	311	1.64	1.64	
13.2	13.6	0	0	7	59	15	0	0	0	40	23	7	53	13	1	0	21	240	1.27	1.27	
13.6	14.0	0	0	5	42	10	0	0	0	28	5	35	34	13	0	0	15	169	0.89	0.89	
14.0	14.4	0	0	2	36	6	0	0	0	22	22	5	34	13	0	0	6	128	0.68	0.68	
14.4	14.8	0	0	0	26	0	0	0	0	12	22	4	17	5	0	0	9	79	0.42	0.42	
14.8	15.2	0	0	1	9	1	0	0	0	18	25	7	15	0	0	0	3	77	0.41	0.41	
15.2	15.6	0	0	0	0	0	0	0	0	14	26	2	10	2	0	0	2	59	0.31	0.31	
15.6	16.0	0	0	0	2	1	0	0	0	23	21	4	10	3	0	0	3	64	0.34	0.34	
16.0	16.4	0	0	0	0	0	0	0	0	20	24	1	3	3	0	0	1	52	0.27	0.27	
16.4	16.8	0	0	0	0	0	0	0	0	6	8	2	5	0	0	0	0	21	0.11	0.11	
16.8	17.2	0	0	0	0	0	0	0	0	4	6	1	3	0	0	0	0	14	0.07	0.07	
17.2	17.6	0	0	0	0	0	0	0	0	3	5	0	0	0	0	0	0	15	0.08	0.08	
17.6	18.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0.02	0.02	
18.0	18.4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0.02	0.02	
18.4	18.8	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4	0.02	0.02	
18.8	19.2	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	2	0.01	0.01	
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0.04	0.04	
19.6	20.0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	

JOINT FREQUENCY DISTRIBUTION TABLE

APR, 1986

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M RANGE (DEG)

2ND PARAM RANGE (M/S)	>=		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348				
>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348			
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348				
20.0 20.4	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	0.04	
20.4 20.8	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	5	0.03	
20.8 21.2	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	6	0.03	
21.2 21.6	0	0	0	0	0	0	0	0	1	9	0	0	0	0	0	0	0	10	0.05	
21.6 22.0	0	0	0	0	0	0	0	0	1	17	0	0	0	0	0	0	0	18	0.10	
22.0 22.4	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0.02	
22.4 22.8	0	0	0	0	0	0	0	0	2	6	0	0	0	0	0	0	0	8	0.04	
22.8 23.2	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8	0.04	
23.2 23.6	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	7	0.04	
23.6 24.0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.01	
24.0 24.4	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01	
24.4 24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
24.8 25.2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01	
25.2 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ	562	429	680	2198	1613	486	163	197	1179	2000	2354	3584	1694	586	332	862	18919	100.00		
PERCENT FREQ	3.0	2.3	3.6	11.6	8.5	2.6	0.9	1.0	6.2	10.6	12.4	18.9	9.0	3.1	1.8	4.6				

WIND SPEED 46M

AVERAGE

4.9 3.7 4.8 8.4 6.6 4.7 3.3 3.1 9.2 9.1 7.1 8.1 7.5 5.5 3.4 7.2

STD DEV

2.3 1.8 3.0 3.7 3.1 2.2 1.6 1.6 4.5 4.6 2.9 3.3 3.4 2.8 1.7 4.0

TABLE STATISTICS

TOTAL COUNT: 18919

MONTHLY COUNT: 21600

PERCENT RECOVERY: 87.59 %

TABLE 1-18 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

MAY, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)	WIND_DIRECTION_9M RANGE (DEG)																TOTAL FREQ	PERCENT FREQ
	>=	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326		348
>	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6	2.0	72	75	132	134	130	120	97	72	51	43	44	32	29	20	42	60	1153
2.0	2.4	89	69	77	108	63	42	49	36	39	27	27	23	30	31	39	37	786
2.4	2.8	36	34	49	47	37	24	31	23	14	13	14	17	17	28	23	35	442
2.8	3.2	35	27	41	39	24	10	18	9	15	19	9	14	17	16	24	22	339
3.2	3.6	19	16	25	27	9	9	19	9	12	11	16	14	15	22	20	15	258
3.6	4.0	12	6	21	19	11	9	4	2	4	20	15	13	16	11	9	11	183
4.0	4.4	9	5	13	15	16	15	14	1	2	17	32	21	27	20	6	9	222
4.4	4.8	6	3	8	7	18	14	23	2	3	9	33	39	20	18	4	3	210
4.8	5.2	3	1	4	15	29	27	21	1	2	14	44	35	23	14	1	3	237
5.2	5.6	3	0	8	20	25	28	33	0	0	18	48	54	19	12	2	0	270
5.6	6.0	2	0	2	15	22	27	21	1	2	15	32	70	23	14	1	1	248
6.0	6.4	2	1	6	13	21	17	18	0	3	23	27	68	25	5	2	1	232
6.4	6.8	0	1	3	14	31	14	4	1	3	16	38	74	28	10	2	0	239
6.8	7.2	0	3	4	27	32	5	1	0	0	23	33	53	39	8	0	0	228
7.2	7.6	0	0	4	41	36	3	3	0	0	25	27	42	43	13	1	0	238
7.6	8.0	1	1	3	33	26	4	2	1	4	38	24	45	59	9	0	0	250
8.0	8.4	1	1	11	46	25	1	0	0	2	23	38	52	48	9	1	0	258
8.4	8.8	1	0	0	40	29	0	0	0	1	28	40	79	56	7	0	0	281
8.8	9.2	1	0	1	62	12	0	0	0	0	1	31	32	59	60	16	1	273
9.2	9.6	0	0	0	1	47	9	0	0	0	1	32	75	66	8	0	0	270
9.6	10.0	0	0	0	0	38	2	0	0	0	21	28	48	60	10	0	0	207
10.0	10.4	0	0	0	0	21	0	0	0	0	24	21	41	71	13	0	0	191
10.4	10.8	0	0	0	0	6	0	0	0	1	28	21	28	41	6	0	0	131
10.8	11.2	0	0	0	3	0	0	0	0	0	13	17	23	42	9	0	0	107
11.2	11.6	0	0	0	1	0	0	0	0	3	16	18	13	34	1	0	0	86
11.6	12.0	0	0	0	0	0	0	0	0	1	10	15	14	27	8	0	0	75
12.0	12.4	0	0	0	0	0	0	0	0	3	13	9	12	16	6	0	0	59
12.4	12.8	0	0	0	0	0	0	0	0	0	2	11	6	18	1	0	0	38
12.8	13.2	0	0	0	0	0	0	0	0	0	5	11	8	14	1	1	0	40
13.2	13.6	0	0	0	0	0	0	0	0	0	4	7	6	8	1	0	0	26
13.6	14.0	0	0	0	0	0	0	0	0	0	7	4	6	10	0	0	0	27
14.0	14.4	0	0	0	0	0	0	0	0	0	13	7	2	2	1	0	0	25
14.4	14.8	0	0	0	0	0	0	0	0	0	15	2	1	3	0	0	0	27
14.8	15.2	0	0	0	0	0	0	0	0	0	18	2	1	4	0	0	0	24
15.2	15.6	0	0	0	0	0	0	0	0	0	24	4	4	4	0	0	0	36
15.6	16.0	0	0	0	0	0	0	0	0	0	27	3	0	0	0	0	0	30
16.0	16.4	0	0	0	0	0	0	0	0	0	41	4	0	0	0	0	0	45
16.4	16.8	0	0	0	0	0	0	0	0	0	34	2	2	0	0	0	0	38
16.8	17.2	0	0	0	0	0	0	0	0	0	50	4	0	0	0	0	0	54
17.2	17.6	0	0	0	0	0	0	0	0	0	52	2	0	0	0	0	0	54
17.6	18.0	0	0	0	0	0	0	0	0	0	46	1	0	0	0	0	0	47
18.0	18.4	0	0	0	0	0	0	0	0	0	38	1	0	0	0	0	0	39
18.4	18.8	0	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0	31
18.8	19.2	0	0	0	0	0	0	0	0	0	28	0	0	0	0	0	0	28
19.2	19.6	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	16
19.6	20.0	0	0	0	0	0	0	0	0	0	19	0	0	0	0	0	0	19

TABLE D-19

JOINT FREQUENCY DISTRIBUTION TABLE

MAY, 1986

WIND_DIRECTION_9M VERSUS WIND_SPEED_9M (2ND PARAMETER)

WIND_DIRECTION_9M RANGE (DEG)

2ND PARAM RANGE (M/S)																	TOTAL FREQ	PERCENT FREQ
> =<	>=		<		>=		<		>=		<		>=		<		8134	100.00
	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326		
20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.10
20.4 20.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.05
20.8 21.2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.01
21.2 21.6	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0.05
21.6 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	292	243	413	838	607	369	358	158	167	1052	806	1095	1011	348	179	198	8134	100.00
PERCENT FREQ	3.6	3.0	5.1	10.3	7.5	4.5	4.4	1.9	2.1	12.9	9.9	13.5	12.4	4.3	2.2	2.4		

WIND_SPEED_9M

AVERAGE	2.7	2.6	3.0	5.5	4.7	3.6	3.5	2.4	3.4	11.7	7.4	7.4	8.1	5.8	2.9	2.6
STD DEV	1.1	1.0	1.6	3.1	2.5	1.8	1.6	0.9	2.5	5.7	3.5	2.7	3.0	3.1	1.4	1.0

TABLE STATISTICS

TOTAL COUNT: 8134
MONTHLY COUNT: 22320
PERCENT RECOVERY: 36.44 %

JOINT FREQUENCY DISTRIBUTION TABLE

MAY, 1986

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)	>= 348												< 11												TOTAL FREQ	PERCENT FREQ
	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	326	348	326	348	326	348				
> 0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
0.8 1.2	11	28	13	41	34	7	10	16	11	8	13	7	11	9	10	11	11	10	11	11	11	11	240	3.08		
1.2 1.6	75	82	179	127	90	44	34	30	27	36	40	38	56	32	53	61	32	53	61	32	53	61	1004	12.90		
1.6 2.0	53	46	75	75	35	19	5	17	14	15	18	21	31	28	41	24	21	31	28	41	24	21	517	6.64		
2.0 2.4	36	28	47	50	26	21	4	5	9	10	15	21	22	25	20	30	10	22	25	20	30	10	369	4.74		
2.4 2.8	23	21	44	42	12	18	6	3	10	20	13	18	15	20	19	14	15	20	19	14	15	14	298	3.83		
2.8 3.2	20	15	28	22	8	15	8	2	12	21	8	18	11	16	14	16	11	16	14	16	11	16	234	3.01		
3.2 3.6	18	9	17	14	16	12	3	2	12	23	10	16	14	15	19	13	10	16	14	15	19	13	213	2.74		
3.6 4.0	11	4	12	13	11	12	3	2	6	7	9	15	17	11	12	10	11	17	11	12	10	11	155	1.99		
4.0 4.4	7	1	11	14	18	9	1	1	1	6	7	35	19	17	9	4	2	17	9	4	2	159	2.04			
4.4 4.8	3	0	12	4	20	16	4	1	6	7	35	19	17	9	4	2	15	17	9	4	2	159	2.04			
4.8 5.2	3	0	12	4	20	16	4	1	6	7	35	19	17	9	4	2	15	17	9	4	2	159	2.04			
5.2 5.6	4	2	8	18	17	36	6	1	2	14	31	23	22	12	4	0	20	22	12	4	0	200	2.57			
5.6 6.0	1	1	6	14	28	63	4	0	1	10	26	40	15	9	0	2	20	22	12	4	0	200	2.57			
6.0 6.4	2	0	2	8	21	34	6	0	3	16	26	56	18	8	0	0	20	22	12	4	0	200	2.57			
6.4 6.8	1	0	3	16	22	23	11	0	2	20	18	47	31	5	1	0	20	22	12	4	0	205	2.63			
6.8 7.2	1	0	5	11	24	11	4	0	3	26	26	69	34	5	2	2	22	26	26	69	34	5	223	2.87		
7.2 7.6	1	1	1	22	17	7	2	0	1	20	28	50	29	6	1	0	28	50	29	6	1	0	186	2.39		
7.6 8.0	0	2	7	34	29	5	2	0	1	25	22	61	37	4	1	0	25	22	61	37	4	1	0	230	2.96	
8.0 8.4	1	2	11	24	33	6	0	0	3	28	27	55	44	8	1	0	28	27	55	44	8	1	0	243	3.12	
8.4 8.8	0	0	9	33	26	2	1	0	2	37	18	56	47	11	0	0	37	18	56	47	11	0	0	242	3.11	
8.8 9.2	0	2	5	36	32	2	0	0	5	37	27	50	52	7	2	0	37	27	50	52	7	2	0	257	3.30	
9.2 9.6	1	0	0	37	15	3	0	0	3	25	23	50	34	1	1	0	25	23	50	34	1	1	0	193	2.48	
9.6 10.0	1	0	3	59	5	0	0	0	1	27	29	73	54	2	0	1	27	29	73	54	2	0	1	255	3.28	
10.0 10.4	0	0	1	48	8	0	0	0	2	32	24	60	46	3	0	0	32	24	60	46	3	0	0	223	2.87	
10.4 10.8	0	0	0	44	9	0	0	0	2	32	26	65	58	5	0	0	32	26	65	58	5	0	0	241	3.10	
10.8 11.2	0	0	0	12	10	0	0	0	3	36	26	63	62	1	0	0	36	26	63	62	1	0	0	213	2.74	
11.2 11.6	0	0	0	24	8	0	0	0	2	30	17	49	46	2	0	0	30	17	49	46	2	0	0	178	2.29	
12.0 12.4	0	0	0	13	2	0	0	0	2	21	18	40	34	7	0	0	21	18	40	34	7	0	0	137	1.76	
12.4 12.8	0	0	0	4	1	0	0	0	1	11	13	26	47	5	0	0	11	13	26	47	5	0	0	108	1.39	
12.8 13.2	0	0	0	1	0	0	0	0	6	13	17	23	28	3	0	0	13	17	23	28	3	0	0	91	1.17	
13.2 13.6	0	0	0	0	1	0	0	0	3	13	15	14	27	3	1	0	13	15	14	27	3	1	0	77	0.99	
13.6 14.0	0	0	0	0	0	0	0	0	1	10	9	13	26	3	0	0	10	9	13	26	3	0	0	62	0.80	
14.0 14.4	0	0	0	0	0	0	0	0	8	10	5	9	9	0	0	0	10	5	9	9	0	0	0	32	0.41	
14.4 14.8	0	0	0	0	0	0	0	0	2	6	6	7	7	1	0	0	6	6	7	7	1	0	0	22	0.28	
14.8 15.2	0	0	0	0	0	0	0	0	4	5	8	8	8	0	0	0	5	8	8	8	0	0	0	25	0.32	
15.2 15.6	0	0	0	0	0	0	0	0	10	4	7	6	6	0	0	0	10	4	7	6	0	0	0	27	0.35	
15.6 16.0	0	0	0	0	0	0	0	0	5	3	3	3	4	0	0	0	5	3	3	4	0	0	0	15	0.19	
16.0 16.4	0	0	0	0	0	0	0	0	11	2	1	4	1	0	0	0	11	2	1	4	1	0	0	19	0.24	
16.4 16.8	0	0	0	0	0	0	0	0	10	2	3	3	3	0	0	0	10	2	3	3	0	0	0	18	0.23	
16.8 17.2	0	0	0	0	0	0	0	0	10	3	1	1	1	0	0	0	10	3	1	1	0	0	0	15	0.19	
17.2 17.6	0	0	0	0	0	0	0	0	17	3	1	1	0	0	0	0	17	3	1	1	0	0	0	21	0.27	
17.6 18.0	0	0	0	0	0	0	0	0	11	2	1	1	0	0	0	0	11	2	1	1	0	0	0	14	0.18	
18.0 18.4	0	0	0	0	0	0	0	0	1	21	0	0	0	0	0	0	21	0	0	0	0	0	0	22	0.28	
18.4 18.8	0	0	0	0	0	0	0	0	0	13	0	1	0	0	0	0	13	0	1	0	0	0	0	14	0.18	
18.8 19.2	0	0	0	0	0	0	0	0	0	22	0	1	0	0	0	0	22	0	1	0	0	0	0	23	0.30	
19.2 19.6	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	22	0	0	0	0	0	0	22	0.28	
19.6 20.0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	0	0	0	0	0	0	17	0.22	

TABLE D-20

JOINT FREQUENCY DISTRIBUTION TABLE

MAY, 1986

WIND_DIRECTION_30M VERSUS WIND_SPEED_30M (2ND PARAMETER)

WIND_DIRECTION_30M RANGE (DEG)

2ND PARAM RANGE (M/S)	>= 348 11 33 56 78 101 123 146 168 191 213 236 258 281 303 326 348																TOTAL FREQ	PERCENT FREQ
>	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
>=	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	16	0.21
<	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	8	0.10
20.0 20.4	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	13	0.17
20.4 20.8	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0.12
20.8 21.2	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0.12
21.2 21.6	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0.12
21.6 22.0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7	0.09
22.0 22.4	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	9	0.12
22.4 22.8	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5	0.06
22.8 23.2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0.04
23.2 23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
23.6 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ	270	244	504	860	578	365	114	80	158	912	696	1233	1069	289	212	197	7781	100.00
PERCENT FREQ	2.5	3.1	6.5	11.1	7.4	4.7	1.5	1.0	2.0	11.7	8.9	15.9	13.7	3.7	2.7	2.5		

WIND SPEED 30M

AVERAGE

STD DEV

2.7	2.5	3.1	6.0	5.5	4.7	3.7	2.2	5.0	11.0	7.9	8.3	8.6	5.2	3.0	2.8
1.3	1.2	1.9	3.6	3.0	2.0	2.1	0.9	3.7	5.9	3.8	3.2	3.6	3.4	1.6	1.2

TABLE STATISTICS

TOTAL COUNT: 7781

MONTHLY COUNT: 22320

PERCENT RECOVERY: 34.86 %

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46M RANGE (DEG)

[illegible]

JOINT FREQUENCY DISTRIBUTION TABLE MAY, 1986

WIND_DIRECTION_46M VERSUS WIND_SPEED_46M (2ND PARAMETER)

WIND_DIRECTION_46M_RANGE (DEG)																			
>= 348		11 33	56 78	101 123	146 168	191 213	236 258	281 303	326 348										
< 11		33 56	78 101	123 146	168 191	213 236	258 281	303 326	348										
2ND PARAM RANGE (M/S)																			
>	<																		
20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0.74
20.4 20.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	0.68
20.8 21.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	0.48
21.2 21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0.40
21.6 22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0.37
22.0 22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0.21
22.4 22.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0.20
22.8 23.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0.21
23.2 23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.05
23.6 24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.11
24.0 24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.02
24.4 24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.01
24.8 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ		250	263	478	861	615	312	84	57	129	1220	695	1268	1139	323	204	177	8075	100.00
PERCENT FREQ		3.1	3.3	5.9	10.7	7.6	3.9	1.0	0.7	1.6	15.1	8.6	15.7	14.1	4.0	2.5	2.2		

WIND SPEED 46M

AVERAGE	2.8	2.5	2.8	6.3	5.8	4.8	3.7	2.7	4.3	13.2	8.2	8.4	8.8	5.1	3.1	2.8
STD DEV	1.4	1.0	1.5	3.6	2.9	1.9	1.9	1.2	3.2	6.7	4.1	3.5	3.6	3.5	1.7	1.1

TABLE STATISTICS

TOTAL COUNT: 8075
MONTHLY COUNT: 22320
PERCENT RECOVERY: 36.18 %

6393 1911

JOINT FREQUENCY DISTRIBUTION TABLE

6393 1911

WIND DIRECT

2ND PARAMETER RANGE (M/ =)	>	=	<
0.0	0.0	0.4	0.4
0.4	0.4	0.8	0.8
0.8	0.8	1.2	1.2
1.2	1.2	1.6	1.6
1.6	1.6	2.0	2.0
2.0	2.0	2.4	2.4
2.4	2.4	2.8	2.8
2.8	2.8	3.2	3.2
3.2	3.2	3.6	3.6
3.6	3.6	4.0	4.0
4.0	4.0	4.4	4.4
4.4	4.4	4.8	4.8
4.8	4.8	5.2	5.2
5.2	5.2	5.6	5.6
5.6	5.6	6.0	6.0
6.0	6.0	6.4	6.4
6.4	6.4	6.8	6.8
6.8	6.8	7.2	7.2
7.2	7.2	7.6	7.6
7.6	7.6	8.0	8.0
8.0	8.0	8.4	8.4
8.4	8.4	8.8	8.8
8.8	8.8	9.2	9.2
9.2	9.2	9.6	9.6
9.6	9.6	10.0	10.0
10.0	10.0	10.4	10.4
10.4	10.4	10.8	10.8
10.8	10.8	11.2	11.2
11.2	11.2	11.6	11.6
11.6	11.6	12.0	12.0
12.0	12.0	12.4	12.4
12.4	12.4	12.8	12.8
12.8	12.8	13.2	13.2
13.2	13.2	13.6	13.6
13.6	13.6	14.0	14.0
14.0	14.0	14.4	14.4
14.4	14.4	14.8	14.8
14.8	14.8	15.2	15.2
15.2	15.2	15.6	15.6
15.6	15.6	16.0	16.0
16.0	16.0	16.4	16.4
16.4	16.4	16.8	16.8
16.8	16.8	17.2	17.2
17.2	17.2	17.6	17.6
17.6	17.6	18.0	18.0
18.0	18.0	18.4	18.4
18.4	18.4	18.8	18.8
18.8	18.8	19.2	19.2
19.2	19.2	19.6	19.6
19.6	19.6	20.0	20.0

JOINT FREQUENCY DISTRIBUTION TABLE

JUNE, 1967

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
<	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348			15113	100.00
>	=	<																	0	0.00
20.0 50.0																			0	0.00
TOTAL FREQ		469	336	462	1483	1258	617	649	405	986	1951	1707	1959	1353	701	381	396		15113	100.00
PERCENT FREQ		3.1	2.2	3.1	9.6	8.3	4.1	4.3	2.7	6.5	12.9	11.3	13.0	9.0	4.6	2.5	2.6		100.0	

WIND SPEED 9M

Average	3.6	2.8	3.7	5.3	5.2	4.1	3.6	2.8	6.0	7.0	5.5	5.8	5.6	4.5	3.1	3.5
Std Dev	1.9	0.9	1.8	2.3	2.7	2.1	1.7	1.4	3.3	3.1	2.2	2.3	2.4	2.1	1.4	2.0

Table Statistics

Total Count:	15113
Monthly Count:	21600
Percent Recovery:	69.97 %

TABLE D-22 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

JUNE, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	WIND DIRECTION 30M RANGE (DEGREES)																TOTAL FREQ	PERCENT FREQ
>= 348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
< 11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348			
>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6 2.0	88	92	105	111	114	76	91	93	99	89	85	88	84	94	86	1480	9.82	
2.0 2.4	64	52	72	106	103	56	63	60	50	48	101	56	62	59	36	1041	6.91	
2.4 2.8	34	31	57	76	48	25	23	44	47	60	87	76	67	51	43	807	5.35	
2.8 3.2	42	26	55	94	42	13	28	25	34	53	64	70	51	40	20	687	4.56	
3.2 3.6	34	34	47	41	29	19	22	32	32	43	62	79	59	33	27	605	4.01	
3.6 4.0	33	32	36	41	22	17	28	15	26	52	86	71	59	34	19	32	4.00	
4.0 4.4	37	35	20	61	45	29	24	18	28	60	110	78	57	39	12	674	4.47	
4.4 4.8	27	20	16	38	28	38	17	6	32	56	106	105	42	23	14	585	3.88	
4.8 5.2	17	14	16	48	31	46	13	3	26	79	102	118	60	23	18	629	4.17	
5.2 5.6	15	3	10	50	39	44	22	6	28	57	111	128	71	12	11	621	4.12	
5.6 6.0	8	3	12	61	34	42	15	5	34	72	89	126	59	16	6	591	3.92	
6.0 6.4	2	2	12	90	66	39	15	4	30	74	117	123	69	14	8	668	4.43	
6.4 6.8	3	0	19	92	57	26	19	0	31	64	109	120	68	18	5	640	4.25	
6.8 7.2	6	0	17	101	51	22	9	1	49	74	92	84	53	14	2	582	3.86	
7.2 7.6	6	1	13	102	36	20	12	0	46	92	95	96	63	14	1	603	4.00	
7.6 8.0	5	0	13	60	35	14	5	1	38	82	77	96	63	17	2	516	3.42	
8.0 8.4	3	0	13	63	40	3	4	0	30	78	82	113	76	20	4	532	3.53	
8.4 8.8	1	0	12	74	32	14	7	0	40	86	78	75	85	16	1	523	3.47	
8.8 9.2	4	0	11	62	36	20	2	0	32	90	56	68	70	9	0	464	3.08	
9.2 9.6	0	0	5	45	24	19	2	1	28	75	49	45	44	10	0	363	2.41	
9.6 10.0	0	0	7	37	10	18	2	0	36	63	22	41	33	0	0	287	1.90	
10.0 10.4	2	0	4	29	19	15	1	0	47	62	21	33	21	1	0	269	1.78	
10.4 10.8	1	0	1	18	30	6	3	0	43	65	8	31	17	1	0	246	1.63	
10.8 11.2	1	0	1	11	17	0	0	0	60	47	3	27	11	1	0	179	1.19	
11.2 11.6	1	0	1	18	12	2	0	0	43	65	8	31	17	1	0	199	1.32	
11.6 12.0	1	0	0	2	19	0	0	0	41	43	5	29	10	0	0	151	1.00	
12.0 12.4	0	0	1	2	16	0	2	0	32	41	1	14	7	0	0	118	0.78	
12.4 12.8	0	0	0	1	14	0	0	0	23	31	1	9	3	0	0	84	0.56	
12.8 13.2	0	0	0	0	8	0	0	0	27	27	4	6	0	0	0	75	0.50	
13.2 13.6	0	0	0	0	4	0	0	0	23	24	3	5	0	0	0	61	0.40	
13.6 14.0	0	0	0	0	7	0	0	1	15	14	0	4	0	0	0	44	0.29	
14.0 14.4	0	0	0	0	2	0	1	0	21	18	2	3	0	0	1	48	0.32	
14.4 14.8	0	0	0	0	7	0	0	8	11	11	0	1	0	0	0	27	0.18	
14.8 15.2	0	0	0	0	0	0	0	12	4	4	0	0	0	0	1	17	0.11	
15.2 15.6	0	0	0	0	0	0	0	0	6	1	0	1	0	0	0	8	0.05	
15.6 16.0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	3	0.02	
16.0 16.4	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	3	0.02	
16.4 16.8	0	0	0	0	0	0	0	1	1	3	0	0	0	0	0	5	0.03	
16.8 17.2	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	3	0.02	
17.2 17.6	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.01	
17.6 18.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01	
18.0 18.4	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	0.01	
18.4 18.8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01	
18.8 19.2	0	0	0	0	0	0	0	0	1	5	0	0	0	0	0	6	0.04	
19.2 19.6	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	7	0.05	
19.6 20.0	0	0	0	0	0	0	0	2	2	1	0	0	0	0	0	3	0.02	

TABLE D-23

WIND FREQUENCY DISTRIBUTION TABLE

JUNE, 1996

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)																																	
		>= 348																TOTAL															
		< 11		11 33		33 56		56 78		78 101		101 123		123 146		146 168		168 191		191 213		213 236		236 258		258 281		281 303		303 326		326 348	
2ND																				FREQ													
PARAMETER																				FREQ													
RANGE (M/S)																				FREQ													
>																																	
=																																	
<																																	
20.0 20.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	4	0.03		
20.4 20.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0.01		
20.8 21.2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00		
21.2 21.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	0.01			
21.6 22.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0.01			
22.0 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00		
TOTAL FREQ		438	346	576	1535	1077	623	430	309	1205	1936	1855	2051	1407	556	340	390	15074	100.00														
PERCENT FREQ		2.9	2.3	3.8	10.2	7.1	4.1	2.9	2.0	8.0	12.8	12.3	13.6	9.3	3.7	2.3	2.6	100.0															
WIND_SPEED_30M																																	
Average		3.6	3.0	4.1	5.8	6.0	5.2	4.0	3.0	7.8	7.6	5.7	6.3	6.1	4.4	3.2	4.2																
Std Dev		1.9	1.1	2.4	2.7	2.3	2.5	2.2	1.4	4.0	3.5	2.4	2.7	2.7	2.4	1.5	2.8																
Table Statistics																																	
Total Count:		15074																															
Monthly Count:		21600																															
Percent Recovery:		69.79																															

TABLE D-23 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

JUNE, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

2ND PARAMETER RANGE (M/S)		WIND DIRECTION 46M RANGE (DEGREES)																TOTAL FREQ	PERCENT FREQ
		< 342	11	33	55	77	99	121	143	165	187	209	231	253	275	297	319		
>	<=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6	2.0	53	47	53	63	54	50	43	48	52	65	60	67	72	65	57	60	910	6.06
2.0	2.4	65	53	91	123	101	71	65	69	64	71	115	105	82	83	83	82	1296	8.63
2.4	2.8	37	41	61	77	62	28	38	45	49	70	90	63	69	37	36	39	864	5.75
2.8	3.2	42	30	49	77	37	18	33	24	44	69	78	72	47	34	27	28	709	4.72
3.2	3.6	31	32	47	38	32	19	20	22	42	49	79	79	55	35	24	55	628	4.18
3.6	4.0	37	24	39	47	25	23	30	19	37	62	86	82	57	29	13	37	647	4.31
4.0	4.4	35	47	21	41	34	26	22	17	27	48	100	83	49	34	7	17	608	4.05
4.4	4.8	18	25	10	34	31	34	14	10	25	53	106	123	48	29	10	18	594	3.95
4.8	5.2	15	14	4	44	33	38	7	7	24	53	106	123	67	25	19	13	590	3.93
5.2	5.6	8	9	6	55	35	48	18	6	13	52	67	134	65	19	15	11	563	3.75
5.6	6.0	15	3	3	58	47	57	10	4	15	62	84	128	61	14	8	11	580	3.86
6.0	6.4	4	2	8	81	64	37	11	5	18	83	103	130	60	16	6	5	636	4.23
6.4	6.8	4	1	12	100	75	29	17	2	32	89	96	133	81	16	6	5	698	4.65
6.8	7.2	4	1	12	101	57	30	9	0	34	75	87	93	66	13	5	2	589	3.92
7.2	7.6	5	1	7	87	37	23	6	1	32	89	102	93	58	17	2	7	567	3.78
7.6	8.0	7	0	8	81	25	8	7	1	36	91	79	121	73	18	6	3	535	3.56
8.0	8.4	6	0	9	77	38	9	6	1	23	87	81	88	85	22	0	1	553	3.68
8.4	8.8	2	0	6	64	44	13	3	0	18	78	68	73	84	15	0	4	516	3.44
8.8	9.2	1	0	6	63	35	17	5	0	20	87	81	88	85	22	0	1	467	3.11
9.2	9.6	6	0	3	56	36	14	2	0	29	101	42	53	55	11	0	4	412	2.74
9.6	10.0	1	0	0	38	24	20	2	0	18	70	35	42	47	6	0	1	304	2.02
10.0	10.4	4	0	3	33	23	7	3	0	28	72	21	26	27	1	0	3	254	1.69
10.4	10.8	2	0	2	14	29	14	1	0	22	76	15	31	16	1	0	2	251	1.67
10.8	11.2	2	0	1	17	22	9	1	0	26	72	15	31	16	1	0	5	216	1.44
11.2	11.6	1	0	0	13	15	1	1	0	40	45	6	32	10	1	0	1	171	1.14
11.6	12.0	2	0	0	7	22	0	0	0	41	63	4	32	8	0	0	0	183	1.22
12.0	12.4	0	0	0	6	18	0	0	0	46	42	2	23	8	0	0	2	146	0.97
12.4	12.8	0	0	0	2	16	0	0	0	30	45	1	11	8	0	0	3	117	0.78
12.8	13.2	0	0	0	0	7	0	0	0	18	42	1	4	4	0	0	0	75	0.50
13.2	13.6	0	0	0	0	0	0	0	0	23	33	3	5	2	0	0	4	78	0.52
13.6	14.0	0	0	0	0	2	0	0	0	15	26	2	3	6	0	0	1	51	0.34
14.0	14.4	0	0	0	0	0	0	0	0	13	23	1	3	3	0	0	0	47	0.31
14.4	14.8	1	0	0	0	0	0	0	1	9	18	1	1	1	0	0	0	40	0.27
14.8	15.2	0	0	0	0	0	0	0	0	13	16	2	3	0	0	0	0	35	0.23
15.2	15.6	0	0	0	0	0	0	0	0	8	13	2	0	0	0	0	1	22	0.15
15.6	16.0	0	0	0	0	0	0	0	0	7	4	0	2	0	0	0	0	11	0.07
16.0	16.4	0	0	0	0	0	0	0	0	3	5	1	0	0	0	0	0	10	0.07
16.4	16.8	0	0	0	0	0	0	0	1	0	2	1	0	0	0	0	0	4	0.03
16.8	17.2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0.02
17.2	17.6	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	0.01
17.6	18.0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	1	0.02
18.0	18.4	0	0	0	0	0	0	0	1	0	3	0	0	0	0	0	0	6	0.04
18.4	18.8	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0.01
18.8	19.2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0.02
19.2	19.6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
19.6	20.0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3	0.02

TABLE D-24

JOINT FREQUENCY DISTRIBUTION TABLE

JUNE, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

		WIND DIRECTION 46M RANGE (DEGREES)																TOTAL	
		348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	FREQ	PERCENT
2ND	PARAMETER	< 11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	FREQ	PERCENT
RANGE (M/S)																			
>																			
=																			
20.0	20.4	0	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	6	0.04
20.4	20.8	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	4	0.03
20.8	21.2	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	6	0.04
21.2	21.6	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0.01
21.6	22.0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
22.0	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
22.4	22.8	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
22.8	23.2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
23.2	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTAL FREQ		407	329	461	1497	1100	643	375	284	1007	2130	1822	2228	1474	560	326	376	15019	100.00
PERCENT FREQ		2.7	2.2	3.1	10.0	7.3	4.3	2.5	1.9	6.7	14.2	12.1	14.8	9.8	3.7	2.2	2.5	100.0	

WIND SPEED 46M

Average	3.9	3.3	3.7	6.1	6.4	5.3	4.1	3.0	2.6	8.0	5.8	6.3	4.6	3.3	4.7
Std Dev	2.1	1.1	2.0	2.7	3.2	2.5	2.2	2.0	4.3	3.7	2.5	2.7	2.4	1.6	2.8

Table Statistics

Total Count:	15019
Monthly Count:	21600
Percent Recovery:	69.53 %

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	>= 348 < 11																TOTAL FREQ				PERCENT FREQ			
	11	33	56	78	101	123	146	168	191	213	236	259	281	303	326	348	326	348	326	348	326	348	326	348
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.4 0.8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.6 2.0	121	106	95	89	142	126	148	117	110	82	111	82	55	63	83	98	1628	2391	1628	2391	7.86	11.54	7.86	11.54
2.0 2.4	171	157	160	178	191	177	158	134	118	144	137	134	103	139	153	134	2391	1493	2391	1493	7.21	7.21	7.21	7.21
2.4 2.8	89	87	92	119	133	102	70	64	91	99	110	84	103	82	87	81	1493	1134	1493	1134	5.47	5.47	5.47	5.47
2.8 3.2	50	65	70	108	117	74	55	52	56	59	78	89	99	73	57	42	1134	749	1134	749	4.61	4.61	4.61	4.61
3.2 3.6	31	29	42	44	52	41	29	19	38	63	84	102	78	48	26	22	749	766	749	766	3.62	3.62	3.62	3.62
3.6 4.0	29	24	52	58	42	17	24	6	30	79	106	117	93	43	34	12	766	766	766	766	3.70	3.70	3.70	3.70
4.0 4.4	23	14	43	57	45	23	11	12	25	82	134	130	78	47	19	25	766	766	766	766	3.71	3.71	3.71	3.71
4.4 4.8	16	8	40	71	62	22	8	17	21	76	145	127	89	44	21	19	786	786	786	786	3.79	3.79	3.79	3.79
4.8 5.2	17	9	22	91	105	37	5	10	28	104	142	115	116	51	26	25	902	902	902	902	4.36	4.36	4.36	4.36
5.2 5.6	22	5	17	75	92	31	6	4	41	116	137	144	105	58	16	23	892	892	892	892	4.31	4.31	4.31	4.31
5.6 6.0	16	4	16	67	87	29	13	7	32	161	120	146	136	51	6	13	904	904	904	904	4.36	4.36	4.36	4.36
6.0 6.4	15	5	17	61	73	28	5	2	36	110	114	138	132	49	12	13	811	811	811	811	3.92	3.92	3.92	3.92
6.4 6.8	16	0	13	34	63	29	6	10	42	134	115	92	136	46	7	9	752	752	752	752	3.63	3.63	3.63	3.63
6.8 7.2	11	2	10	41	59	13	1	4	60	157	106	78	106	45	6	7	706	706	706	706	3.41	3.41	3.41	3.41
7.2 7.6	6	1	8	40	56	7	5	3	53	169	120	77	105	34	5	5	694	694	694	694	3.35	3.35	3.35	3.35
7.6 8.0	5	0	7	24	46	2	2	4	48	161	75	61	80	32	6	8	561	561	561	561	2.71	2.71	2.71	2.71
8.0 8.4	4	0	7	24	51	1	3	5	59	169	59	71	75	30	3	2	563	563	563	563	2.72	2.72	2.72	2.72
8.4 8.8	1	0	3	25	35	0	1	2	71	166	63	59	74	17	5	2	524	524	524	524	2.53	2.53	2.53	2.53
8.8 9.2	1	1	2	27	35	0	0	3	72	134	39	34	52	10	3	4	408	408	408	408	1.97	1.97	1.97	1.97
9.2 9.6	3	1	3	12	26	0	0	0	94	129	30	37	50	9	2	2	374	374	374	374	1.81	1.81	1.81	1.81
9.6 10.0	0	0	3	8	23	0	0	1	84	108	35	28	29	9	2	1	316	316	316	316	1.53	1.53	1.53	1.53
10.0 10.4	0	0	1	2	8	0	0	0	88	102	14	12	24	8	1	0	255	255	255	255	1.23	1.23	1.23	1.23
10.4 10.8	1	0	1	2	2	0	1	0	78	71	4	14	18	1	1	1	201	201	201	201	0.97	0.97	0.97	0.97
10.8 11.2	2	0	0	0	1	0	0	0	90	71	8	7	20	5	0	1	205	205	205	205	0.99	0.99	0.99	0.99
11.2 11.6	0	0	0	0	0	0	0	0	79	44	3	3	20	3	1	3	156	156	156	156	0.75	0.75	0.75	0.75
11.6 12.0	0	0	0	0	0	0	0	0	105	40	1	4	16	2	0	0	168	168	168	168	0.81	0.81	0.81	0.81
12.0 12.4	0	0	0	0	0	0	0	0	90	38	0	6	5	4	1	1	145	145	145	145	0.70	0.70	0.70	0.70
12.4 12.8	0	0	0	0	0	0	0	0	78	31	0	5	6	2	0	0	122	122	122	122	0.59	0.59	0.59	0.59
12.8 13.2	0	0	0	0	0	0	0	0	57	25	0	3	7	3	0	0	95	95	95	95	0.46	0.46	0.46	0.46
13.2 13.6	0	0	0	0	0	0	0	0	44	19	0	2	1	2	0	0	68	68	68	68	0.33	0.33	0.33	0.33
13.6 14.0	0	0	0	0	0	0	0	0	35	10	0	0	1	0	0	0	46	46	46	46	0.22	0.22	0.22	0.22
14.0 14.4	0	0	0	0	0	0	0	0	25	9	1	2	1	1	0	0	39	39	39	39	0.19	0.19	0.19	0.19
14.4 14.8	0	0	0	0	0	0	0	0	20	8	0	0	3	0	0	0	31	31	31	31	0.15	0.15	0.15	0.15
14.8 15.2	0	0	0	0	0	0	0	0	17	11	0	0	2	0	0	0	30	30	30	30	0.14	0.14	0.14	0.14
15.2 15.6	0	0	0	0	0	0	0	0	14	5	0	2	2	0	0	0	23	23	23	23	0.11	0.11	0.11	0.11
15.6 16.0	0	0	0	0	0	0	0	0	8	5	0	0	2	0	0	0	15	15	15	15	0.07	0.07	0.07	0.07
16.0 16.4	0	0	0	0	0	0	0	0	3	6	0	0	1	0	0	0	10	10	10	10	0.05	0.05	0.05	0.05
16.4 16.8	0	0	0	0	0	0	0	0	4	5	0	0	1	0	0	0	10	10	10	10	0.05	0.05	0.05	0.05
16.8 17.2	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	5	5	5	5	0.02	0.02	0.02	0.02
17.2 17.6	0	0	0	0	0	0	0	0	4	1	0	0	0	0	0	0	3	3	3	3	0.01	0.01	0.01	0.01
17.6 18.0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	2	2	2	2	0.01	0.01	0.01	0.01
18.0 18.4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	1	1	1	0.00	0.00	0.00	0.00
18.4 18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
18.8 19.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
19.2 19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
19.6 20.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00

TABLE D-25

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	< 11	11 33	33 56	56 78	78 101	101 123	123 146	146 168	168 191	191 213	213 236	236 258	258 281	281 303	303 326	326 348	TOTAL FREQ	PERCENT FREQ
> 20.0 20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
20.4 20.8	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00
20.8 21.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
21.2 21.6	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00
21.6 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

TOTAL FREQ 702 561 776 1352 1596 803 598 497 2096 3095 2166 2113 2090 1067 607 594 20713 100.00

PERCENT FREQ 3.4 2.7 3.7 6.5 7.7 3.9 2.9 2.4 10.1 14.9 10.5 10.2 10.1 5.2 2.9 2.9 100.0

WIND SPEED 30M

Average	3.6	2.9	4.0	5.0	5.5	4.3	3.4	3.6	10.5	7.4	6.8	6.1	6.5	5.0	3.7	4.2		
Std Dev	2.0	1.2	2.2	2.6	2.8	2.4	1.9	2.3	4.4	3.3	2.6	2.9	3.1	2.9	2.3	2.5		

Table Statistics

Total Count: 20620
Monthly Count: 22320
Percent Recovery: 91.99 %

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	>= 348																TOTAL FREQ	PERCENT FREQ
	>	<	11	33	56	78	101	123	146	168	191	213	236	258	281	303			326	348
>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.6 2.0	156	165	155	131	168	101	62	97	119	124	146	152	142	119	113	116	2066	10.06
2.0 2.4	88	100	109	128	126	75	59	50	56	72	128	96	99	97	80	75	1438	7.00
2.4 2.8	70	67	83	139	124	60	41	33	29	75	116	92	89	54	50	50	1172	5.71
2.8 3.2	58	50	68	103	99	48	27	29	48	55	95	80	96	84	57	32	1029	5.01
3.2 3.6	41	42	52	82	69	26	19	31	29	54	73	102	89	42	31	31	813	3.96
3.6 4.0	40	36	53	53	61	18	15	14	35	65	67	110	83	47	26	24	747	3.64
4.0 4.4	35	27	45	47	35	18	13	14	37	69	86	92	72	43	23	16	672	3.27
4.4 4.8	31	16	47	38	41	12	12	9	21	77	100	106	68	42	13	15	648	3.16
4.8 5.2	22	18	37	49	57	20	8	4	23	74	123	123	62	25	26	14	685	3.34
5.2 5.6	12	8	39	61	42	13	8	6	23	84	114	126	83	26	12	20	677	3.30
5.6 6.0	17	5	40	64	50	17	7	2	22	87	137	108	75	35	13	18	700	3.41
6.0 6.4	19	4	18	75	69	17	2	6	19	106	122	134	105	44	16	29	785	3.82
6.4 6.8	12	2	17	81	98	20	8	3	34	130	136	132	132	35	10	26	876	4.27
6.8 7.2	11	3	16	74	90	14	0	5	36	117	102	123	102	30	4	19	746	3.63
7.2 7.6	15	3	20	47	79	23	3	2	28	141	110	105	141	38	9	12	776	3.78
7.6 8.0	12	2	11	41	75	25	3	7	42	143	120	114	132	24	2	9	762	3.71
8.0 8.4	10	2	13	29	74	18	3	2	48	169	87	81	110	27	7	9	689	3.36
8.4 8.8	4	0	3	28	47	16	6	5	48	153	77	63	77	19	3	5	554	2.70
8.8 9.2	2	0	12	25	59	11	4	2	55	160	71	62	83	28	3	6	583	2.84
9.2 9.6	1	0	8	28	43	7	1	8	76	146	70	73	72	11	1	4	549	2.67
9.6 10.0	3	0	6	20	25	3	2	4	59	153	37	54	59	14	4	4	447	2.18
10.0 10.4	1	0	5	25	24	2	0	2	93	140	35	37	54	10	3	1	432	2.10
10.4 10.8	2	0	4	10	29	0	0	0	86	117	25	35	34	6	2	5	369	1.80
10.8 11.2	0	0	3	2	16	0	1	0	93	96	21	26	37	6	3	3	312	1.52
11.2 11.6	2	0	2	1	11	1	0	2	76	87	19	24	31	7	0	1	268	1.31
11.6 12.0	2	0	2	1	11	1	0	2	94	62	16	16	18	4	1	0	230	1.12
12.0 12.4	0	0	0	0	0	0	0	0	80	44	4	16	18	2	1	1	168	0.82
12.4 12.8	1	0	0	0	0	0	0	0	111	41	6	7	16	3	1	2	188	0.92
12.8 13.2	0	0	0	0	0	0	0	0	102	37	1	3	19	3	2	1	169	0.82
13.2 13.6	0	0	0	0	0	0	0	0	101	27	1	6	21	4	1	1	162	0.79
13.6 14.0	0	0	0	0	0	0	0	0	83	12	1	7	11	4	0	1	119	0.58
14.0 14.4	0	0	0	0	0	0	0	0	103	20	0	4	10	1	0	0	138	0.67
14.4 14.8	0	0	0	0	0	0	0	0	86	17	0	7	4	2	0	0	116	0.56
14.8 15.2	0	0	0	0	0	0	0	0	65	24	0	2	4	1	0	0	96	0.47
15.2 15.6	0	0	0	0	0	0	0	0	56	4	1	1	2	2	0	0	66	0.32
15.6 16.0	0	0	0	0	0	0	0	0	54	8	0	1	2	2	0	0	67	0.33
16.0 16.4	0	0	0	0	0	0	0	0	31	5	0	2	1	0	0	0	39	0.19
16.4 16.8	0	0	0	0	0	0	0	0	32	2	0	3	0	0	0	0	37	0.18
16.8 17.2	0	0	0	0	0	0	0	0	27	2	0	2	0	0	0	0	31	0.15
17.2 17.6	0	0	0	0	0	0	0	0	26	5	0	0	1	0	0	0	32	0.16
17.6 18.0	0	0	0	0	0	0	0	0	15	3	0	2	2	0	0	0	22	0.11
18.0 18.4	0	0	0	0	0	0	0	0	10	3	0	2	0	0	0	0	15	0.07
18.4 18.8	0	0	0	0	0	0	0	0	6	2	0	0	2	0	0	0	10	0.05
18.8 19.2	0	0	0	0	0	0	0	0	5	1	0	0	1	0	0	0	7	0.03
19.2 19.6	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	9	0.04
19.6 20.0	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	5	0.02

TABLE D-26

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)

WIND SPEED PARAMETER RANGE (M/S)	348 < 13	11 33	33 56	56 78	78 101	101 123	123 146	146 168	168 191	191 213	213 236	236 258	258 281	281 303	303 326	326 348	TOTAL FREQ	PERCENT FREQ
> 20.0 20.4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00
= 20.4 20.8	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	3	0.01
< 20.8 21.2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.00
< 21.2 21.6	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0.01
< 21.6 22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 22.0 22.4	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0.01
< 22.4 22.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 22.8 23.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 23.2 23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 23.6 24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 24.0 24.4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00
< 24.4 24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 24.8 25.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 25.2 25.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 25.6 26.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
< 26.0 26.4	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00
< 26.4 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

TOTAL FREQ	667	550	871	1401	1626	565	304	343	2336	3024	2247	2331	2259	941	517	550	20532	100.00
PERCENT FREQ	3.2	2.2	4.2	6.8	7.9	2.8	1.5	1.7	11.4	14.7	10.9	11.4	11.0	4.6	2.5	2.7	100.00	

WIND_SPEED_30M

Average	3.6	2.9	4.0	5.0	5.5	4.3	2.4	3.6	10.5	7.9	5.8	6.1	6.5	5.0	3.7	4.2		
Std Dev	2.0	1.2	2.2	2.5	2.8	2.4	1.9	2.3	4.4	3.3	2.6	2.9	3.1	2.9	2.2	2.5		

Table Statistics

Total Count:	20532
Monthly Count:	22320
Percent Recovery:	91.99 %

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)	>=	348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	TOTAL FREQ	PERCENT FREQ
>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6 2.0	100	101	110	119	99	64	42	44	58	63	87	126	119	81	73	74	1360	6.60	6.60
2.0 2.4	103	129	137	180	173	111	63	70	63	86	165	164	160	103	85	95	1887	9.16	9.16
2.4 2.8	85	71	72	132	132	55	36	36	46	54	133	126	101	72	44	48	1243	6.03	6.03
2.8 3.2	55	62	71	97	48	30	32	34	44	88	113	80	57	57	34	33	1001	4.86	4.86
3.2 3.6	42	45	59	55	68	26	17	16	41	57	87	119	105	52	40	33	862	4.18	4.18
3.6 4.0	25	36	46	39	58	17	12	12	36	59	78	121	82	55	28	23	727	3.53	3.53
4.0 4.4	28	29	41	49	32	17	15	16	31	73	91	96	80	45	26	13	682	3.31	3.31
4.4 4.8	37	21	32	36	45	17	11	9	24	63	97	107	65	40	23	11	638	3.10	3.10
4.8 5.2	32	10	34	48	46	15	8	3	21	66	113	142	63	28	22	16	667	3.24	3.24
5.2 5.6	14	9	36	61	46	23	5	3	13	63	120	123	78	29	19	11	653	3.17	3.17
5.6 6.0	16	6	27	72	53	12	10	2	20	89	112	119	67	30	8	14	657	3.19	3.19
6.0 6.4	19	3	16	70	69	15	4	3	13	95	114	140	103	43	12	14	733	3.56	3.56
6.4 6.8	19	2	15	68	96	19	1	6	18	105	123	146	124	46	12	33	833	4.04	4.04
6.8 7.2	16	3	7	65	88	14	6	3	30	111	101	120	124	31	6	29	754	3.66	3.66
7.2 7.6	15	2	18	61	103	25	2	3	23	131	106	124	111	37	4	17	782	3.79	3.79
7.6 8.0	15	1	14	44	68	18	3	3	29	158	104	126	149	28	7	10	777	3.77	3.77
8.0 8.4	9	0	6	31	60	24	3	6	26	172	101	86	124	33	7	11	699	3.39	3.39
8.4 8.8	5	2	9	27	83	17	4	1	35	162	77	63	70	21	3	5	612	2.97	2.97
8.8 9.2	4	0	4	26	47	13	4	1	56	161	85	62	73	22	2	7	577	2.80	2.80
9.2 9.6	3	0	6	29	48	14	4	4	5	161	50	55	76	12	0	2	474	2.30	2.30
9.6 10.0	0	0	4	19	38	6	1	3	50	158	38	39	57	11	1	2	445	2.16	2.16
10.0 10.4	1	0	4	29	30	6	0	1	77	149	38	39	57	11	1	2	396	1.92	1.92
10.4 10.8	4	0	2	24	32	0	0	0	1	77	139	29	37	8	3	1	344	1.67	1.67
10.8 11.2	1	0	2	15	23	0	0	1	67	124	29	24	44	7	6	1	261	1.27	1.27
11.2 11.6	3	0	4	7	14	1	1	1	57	87	17	24	33	6	1	6	245	1.19	1.19
11.6 12.0	1	0	0	1	9	0	0	0	81	80	17	28	24	3	0	1	203	0.98	0.98
12.0 12.4	0	0	2	0	3	0	0	0	79	65	12	12	21	6	1	2	156	0.76	0.76
12.4 12.8	2	0	0	0	0	0	0	1	67	41	5	11	19	4	3	0	191	0.93	0.93
12.8 13.2	1	0	0	0	2	0	0	0	100	47	3	5	13	5	0	2	175	0.85	0.85
13.2 13.6	0	0	0	0	0	0	0	0	102	26	2	4	20	2	1	1	158	0.77	0.77
13.6 14.0	0	0	0	0	0	0	0	0	90	26	0	7	12	3	0	1	139	0.67	0.67
14.0 14.4	0	0	0	0	0	0	0	0	73	25	0	4	9	0	1	1	113	0.55	0.55
14.4 14.8	0	0	0	0	0	0	0	0	88	30	0	6	4	2	0	0	130	0.63	0.63
14.8 15.2	0	0	0	0	0	0	0	0	71	22	0	2	5	1	0	0	101	0.49	0.49
15.2 15.6	0	0	0	0	0	0	0	0	62	14	1	2	2	0	0	0	81	0.39	0.39
15.6 16.0	0	0	0	0	0	0	0	0	43	9	0	3	0	2	0	0	57	0.28	0.28
16.0 16.4	0	0	0	0	0	0	0	0	42	11	0	1	1	0	0	0	32	0.16	0.16
16.4 16.8	0	0	0	0	0	0	0	0	26	2	0	4	0	0	0	0	37	0.18	0.18
16.8 17.2	0	0	0	0	0	0	0	0	28	7	0	1	1	0	0	0	29	0.14	0.14
17.2 17.6	0	0	0	0	0	0	0	0	22	6	0	1	0	0	0	0	35	0.17	0.17
17.6 18.0	0	0	0	0	0	0	0	0	23	11	0	0	1	0	0	0	15	0.07	0.07
18.0 18.4	0	0	0	0	0	0	0	0	6	6	0	2	1	0	0	0	18	0.09	0.09
18.4 18.8	0	0	0	0	0	0	0	0	11	4	0	1	2	0	0	0	6	0.03	0.03
18.8 19.2	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	6	0.03	0.03
19.2 19.6	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	6	0.03	0.03
19.6 20.0	0	0	0	0	0	0	0	0	3	2	0	0	0	1	0	0	6	0.03	0.03

TABLE D-27

JOINT FREQUENCY DISTRIBUTION TABLE

JULY, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)		>=		<		11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ	PERCENT FREQ
>	<	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.02
20.4	20.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0.04	
20.8	20.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01	
21.2	21.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0.02	
21.6	21.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.0	22.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01	
22.4	22.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.8	22.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01	
23.2	23.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
23.6	23.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
24.0	24.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
24.4	24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
24.8	24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.01	
25.2	25.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
50.0	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ		655	532	778	1404	1665	577	282	282	284	2104	3111	2279	2590	2369	957	498	526	20611	100.00																			
PERCENT FREQ		3.2	2.6	3.8	6.8	8.1	2.8	1.4	1.4	1.4	10.2	15.1	11.1	12.6	11.5	4.6	2.4	2.6	100.0																				

TOTAL FREQ 655 532 778 1404 1665 577 282 284 2104 3111 2279 2590 2369 957 498 526 20611 100.00

PERCENT FREQ 3.2 2.6 3.8 6.8 8.1 2.8 1.4 1.4 10.2 15.1 11.1 12.6 11.5 4.6 2.4 2.6 100.0

WIND SPEED 46M

Average 3.9 3.0 3.9 5.0 5.7 4.5 3.6 3.6 11.0 8.5 6.0 6.0 6.6 5.3 3.9 4.4

Std Dev 2.2 1.1 2.1 2.6 2.8 2.5 2.0 2.2 4.6 3.5 2.7 2.9 3.2 3.0 2.3 2.7

Table Statistics

Total Count: 20611

Monthly Count: 22320

Percent Recovery: 97.34

TABLE D-27 (CONTINUED)

JOINT EFFICIENCY DISTRIBUTION TABLE

JOINT EFFICIENCY DISTRIBUTION TABLE

AUGUST, 1986

WIND DIRECTION 9M VERSUS WIND SPEED

WIND DIRECTION 9M RAIN

[illegible][illegible]

JOINT FREQUENCY DISTRIBUTION TABLE AUGUST, 1986

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)																
WIND DIRECTION 9M RANGE (DEGREES)																

JOINT FREQUENCY DISTRIBUTION TABLE

AUGUST, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

2ND PARAMETER RANGE (M/S)	WIND DIRECTION 30M RANGE (DEGREES)																TOTAL FREQ	PERCENT FREQ
	>= 348	< 11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	326	
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6 2.0	112	118	80	78	64	52	37	55	69	77	91	85	86	81	90	79	1254	15.29
2.0 2.4	60	45	47	63	77	55	37	27	29	36	46	43	51	48	34	33	731	8.92
2.4 2.8	48	32	38	64	86	50	23	14	21	25	36	29	30	25	18	20	559	6.82
2.8 3.2	30	46	30	60	84	61	21	9	12	21	30	33	25	16	13	20	511	6.23
3.2 3.6	26	39	35	56	58	32	16	4	10	34	32	38	25	13	23	18	459	5.60
3.6 4.0	29	30	30	57	52	20	13	7	9	32	32	17	17	10	12	13	380	4.63
4.0 4.4	28	39	43	55	44	36	30	4	7	28	39	27	16	6	4	12	418	5.10
4.4 4.8	21	26	51	67	40	40	19	2	3	24	26	41	11	3	1	5	380	4.63
4.8 5.2	10	6	40	49	36	30	9	1	3	15	28	27	12	4	2	2	274	3.34
5.2 5.6	5	5	32	50	39	45	5	4	2	20	32	17	11	4	0	4	235	2.87
5.6 6.0	5	1	22	36	46	26	5	4	2	20	32	17	11	4	0	4	235	2.87
6.0 6.4	6	3	18	41	76	17	1	1	6	18	24	23	10	4	1	1	213	2.60
6.4 6.8	4	2	8	51	55	12	1	0	10	21	20	17	9	5	0	2	244	2.98
6.8 7.2	1	1	8	44	55	12	1	0	12	23	15	13	10	4	0	0	199	2.43
7.2 7.6	1	2	9	35	62	9	0	4	20	19	15	8	11	4	0	0	199	2.43
7.6 8.0	0	0	9	39	74	8	0	1	19	28	16	22	16	4	1	1	238	2.90
8.0 8.4	0	0	14	34	68	5	0	2	14	32	14	14	16	2	0	0	215	2.62
8.4 8.8	0	0	9	41	86	2	0	0	13	50	7	10	12	0	1	1	232	2.83
8.8 9.2	0	0	9	36	56	7	0	3	8	47	7	11	13	0	0	0	197	2.40
9.2 9.6	0	0	5	30	37	2	0	1	12	35	9	9	11	1	0	0	152	1.85
9.6 10.0	0	0	0	20	18	1	0	1	9	40	12	6	6	0	0	0	113	1.38
10.0 10.4	0	0	0	2	8	0	0	1	10	40	12	8	8	0	0	0	89	1.09
10.4 10.8	0	0	0	0	6	0	0	1	18	39	5	7	7	0	0	0	83	1.01
10.8 11.2	0	0	0	1	4	0	0	0	10	51	8	4	1	0	0	0	79	0.96
11.2 11.6	0	0	0	0	0	0	0	0	14	64	5	9	2	0	0	0	94	1.15
11.6 12.0	0	0	0	0	0	0	0	1	12	57	4	1	2	0	0	1	78	0.95
12.0 12.4	0	0	0	0	0	0	0	0	13	34	1	4	1	1	0	0	54	0.66
12.4 12.8	0	0	0	0	0	0	0	0	20	40	4	2	0	0	0	0	66	0.80
12.8 13.2	0	0	0	0	0	0	0	0	18	27	2	5	0	0	0	0	52	0.63
13.2 13.6	0	0	0	0	0	0	0	0	12	20	0	1	0	0	0	0	33	0.40
13.6 14.0	0	0	0	0	0	0	0	0	23	14	2	1	0	0	0	0	40	0.49
14.0 14.4	0	0	0	0	0	0	0	0	14	5	0	1	0	0	0	0	20	0.24
14.4 14.8	0	0	0	0	0	0	0	0	6	5	1	0	0	0	0	0	12	0.15
14.8 15.2	0	0	0	0	0	0	0	0	1	5	0	0	1	0	0	1	8	0.10
15.2 15.6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
15.6 16.0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	3	0.04
16.0 16.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16.4 16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16.8 17.2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0.02
17.2 17.6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.01
17.6 18.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.0 18.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.4 18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.8 19.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
19.2 19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01
19.6 20.0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.01

TABLE D-29

JOINT FREQUENCY DISTRIBUTION TABLE

AUGUST, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

		WIND DIRECTION 30M RANGE (DEGREES)																TOTAL		PERCENT FREQ
		>= 348		11 33		56 78		101 123		146 168		191 213		236 258		281 303		326 348		
2ND PARAMETER RANGE (M/S)	> =<	< 11		33 56		78 101		123 146		168 191		213 236		258 281		303 326		348		
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20.0 20.4	>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
20.4 20.8	=	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
20.8 21.2	<	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.01	
21.2 21.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
21.6 22.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.0 22.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.4 22.8		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0.01	
22.8 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ		389	395	537	1009	1223	519	213	144	470	1044	607	556	432	245	200	216	8199	100.00	
PERCENT FREQ		4.7	4.8	6.6	12.3	14.9	6.3	2.6	1.8	5.7	12.7	7.4	6.8	5.3	3.0	2.4	2.6	100.0		

100.0

2.6

2.4

3.0

5.3

6.8

7.4

12.7

5.7

1.8

2.6

6.3

5.9

213

144

470

1044

607

556

432

245

200

216

8199

100.00

WIND_SPEED_30M

Average

Std Dev

3.0

1.2

4.2

2.0

5.2

2.4

5.7

4.1

3.2

1.2

1.8

4.1

3.2

7.7

8.1

5.0

5.1

4.7

3.3

2.5

2.9

2.4

1.0

1.6

1.6

Table Statistics

Total Count:

Monthly Count:

Percent Recovery:

8199

22320

36.73 %

TABLE D 29 (CONTINUED)

TABLE D-30

JOINT FREQUENCY DISTRIBUTION TABLE

AUGUST, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46M RANGE. (DEGREES)																																							
		>= 348		< 11		33		56		78		101		123		146		168		191		213		236		258		281		303		326		348		TOTAL FREQ		PERCENT FREQ	
2ND PARAMETER RANGE (M/S)																																							
>		=		<																																			
20.0 20.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	
20.4 20.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
20.8 21.2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	
21.2 21.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
21.6 22.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	
22.0 22.4		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.4 22.8		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
22.8 23.2		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
23.2 23.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
23.6 24.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01	
24.0 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	
TOTAL FREQ		365	358	509	1028	1316	510	172	122	122	363	1114	655	608	416	253	170	211	8170	100.00																			
PERCENT FREQ		4.5	4.4	6.2	12.6	16.1	6.2	2.1	1.5	1.5	4.4	13.6	8.0	7.4	5.1	3.1	2.1	2.6	100.0																				

WIND SPEED 46M

Average

Std Dev

3.2 3.0 4.1 5.3 5.8 4.0 3.2 3.4 7.6 8.6 4.8 5.1 5.1 3.4 2.7 1.0 1.5

1.2 1.1 1.9 2.4 2.7 1.8 1.1 2.3 4.2 3.8 2.8 3.0 2.9 2.7 1.0 1.5

Table Statistics

Total Count: 8170

Monthly Count: 22320

Percent Recovery: 36.60 %

TABLE D-30 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

THE UNIVERSITY OF CHICAGO PRESS

WIND DIRECTION M. FANG (DEGREES)

[illegible]

TABLE D-31

JOINT FREQUENCY DISTRIBUTION TABLE SEPTEMBER 1967

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE DEGREES																																							
		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
2ND		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
PARAMETER		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
RANGE (KTS)		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
>		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
=		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
<		0		11		33		56		78		101		123		146		168		191		213		236		258		281		303		325		347		TOTAL		PERCENT	
20.0 50.0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	
TOTALS		691	540	747	2310	3135	537	325	386	954	2360	2444	2139	1583	460	437	529	19617	100.00																				
PERCENT FREQ		3.5	2.8	3.9	11.8	16.0	2.7	1.7	2.0	4.9	12.1	12.5	10.9	8.1	2.4	2.2	2.7	100.00																					
WIND SPEED 9M																																							
Average		2.9	2.9	3.6	6.7	7.1	3.6	2.8	2.7	5.6	7.5	6.7	5.9	6.4	5.7	5.1	5.1																						
Std Dev		1.1	1.0	1.7	2.7	2.9	2.0	1.0	1.0	3.4	3.4	3.6	3.1	2.6	1.9	1.9	1.1																						

WIND SPEED 9M

Average 2.9
Std Dev 1.1

Table Statistics
Total Count: 19617
Monthly Count: 21600
Percent Recovery: 90.82 %

TABLE D-31 (CONTINUED)

[illegible]

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 3CM RANGE (DEGREES)

[illegible]

TABLE D-32

WIND SPEED AND DIRECTION DATA

WIND SPEED AND DIRECTION DATA

WIND SPEED AND DIRECTION DATA

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)

WIND SPEED 30M RANGE (DEGREES)

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

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WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

WIND SPEED 30M

JOINT FREQUENCY DISTRIBUTION TABLE SEPTEMBER, 1986

WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

WIND DIRECTION 46M RANGE (DEGREES)																			
																		TOTAL	PERCENT
																		FREQ	FREQ
2ND PARAMETER RANGE (M/S)	>= 348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
	< 11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348			
>=<																			
20.0 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTALS		318	330	430	2219	1950	318	181	139	237	389	846	1366	655	210	221	279	10088	100.00
PERCENT FREQ		3.2	3.3	4.3	22.0	19.3	3.2	1.8	1.4	2.4	3.9	8.4	13.5	6.5	2.1	2.2	2.8	100.00	

WIND SPEED 46M

Average	2.6	3.1	4.1	7.9	7.3	3.9	2.7	2.6	3.2	4.9	6.8	6.7	6.5	4.7	3.9	5.7
Std Dev	0.0	1.5	1.9	3.1	3.1	2.3	1.1	1.0	2.1	2.9	3.4	2.5	3.1	2.7	1.9	1.9

Table Statistics

Total Count: 10088
Monthly Count: 21600
Percent Recovery: 46.70 %

TABLE D-33 (CONTINUED)

JOINT FREQUENCY DISTRIBUTION TABLE

OCTOBER, 1966

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

WIND DIRECTION 30M RANGE (DEGREES)

2ND PARAMETER RANGE (M/S)		>= 45																TOTAL FREQ	PERCENT FREQ
>	<=	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348		
0.0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.31
0.8	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2	1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.61
1.6	2.0	0	12	4	1	3	0	0	0	0	0	0	0	0	0	0	0	12	37.31
2.0	2.4	0	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	50	15.29
2.4	2.8	0	4	1	4	0	0	0	0	0	0	0	0	0	0	0	0	20	7.95
2.8	3.2	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	38	8.56
3.2	3.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	6.73
3.6	4.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	8.26
4.0	4.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	5.20
4.4	4.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	3.06
4.8	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3.06
5.2	5.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	2.75
5.6	6.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0.61
6.0	6.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
6.4	6.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.31
6.8	7.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
7.2	7.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
7.6	8.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
8.0	8.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
8.4	8.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
8.8	9.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
9.2	9.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
9.6	10.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
10.0	10.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
10.4	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
10.8	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
11.2	11.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
11.6	12.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
12.0	12.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
12.4	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
12.8	13.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
13.2	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
13.6	14.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
14.0	14.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
14.4	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
14.8	15.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
15.2	15.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
15.6	16.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16.0	16.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16.4	16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
16.8	17.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
17.2	17.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
17.6	18.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.0	18.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.4	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
18.8	19.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
19.2	19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

TABLE D-35

JOINT FREQUENCY DISTRIBUTION TABLE OCTOBER, 1986

WIND DIRECTION 30M VERSUS WIND SPEED 30M (2ND PARAMETER)

		WIND DIRECTION 30M RANGE (DEGREES)																	
2ND PARAMETER RANGE (M/S)	> =<	>= 348		11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348
		< 11		33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	360
20.0 50.0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS		15	19	7	7	7	7	5	9	3	16	32	83	50	22	26	16	6	327
PERCENT FREQ		4.6	5.8	2.1	2.1	2.1	2.1	1.5	2.8	0.9	4.9	9.8	25.4	15.3	6.7	8.0	5.5	2.5	100.00
WIND SPEED 30M																			
Average		2.7	2.2	1.8	2.0	2.0	2.0	2.6	1.8	1.9	3.2	3.1	3.3	3.2	2.1	2.0	2.1	2.6	
Std Dev		1.3	0.6	0.1	0.4	1.0	0.7	1.0	0.1	1.0	0.8	1.2	1.2	1.3	0.5	0.3	0.4	1.0	
Total Count		327																	
Mean		2.7																	
Percent Frequency		100.0																	

JOINT FREQUENCY DISTRIBUTION TABLE

OCTOBER, 1946

WIND DIRECTION 40M VERSUS WIND SPEED 40M (NO PARAMETERS)

WIND DIRECTION 40M RANGE (DEGREES)

WIND SPEED 40M RANGE (KNOTS)	11	3	56	78	101	123	146	168	191	213	236	258	281	303	326	348	TOTAL FREQ	PERCENT FREQ
0.0 0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.4 0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
0.8 1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.2 1.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
1.6 2.0	0	0	60	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
2.0 2.4	108	145	200	154	128	90	44	3	7	11	27	31	39	30	34	43	437	3.31
2.4 2.8	37	50	74	69	64	60	26	1	34	32	66	76	87	57	35	32	820	12.85
2.8 3.2	11	26	38	27	43	65	16	12	18	20	53	50	71	40	13	8	511	3.87
3.2 3.6	4	13	25	44	31	40	12	7	11	27	44	75	42	19	10	4	409	3.09
3.6 4.0	0	6	24	33	20	36	11	4	6	13	62	63	35	5	5	0	331	2.50
4.0 4.4	0	11	26	37	33	22	7	6	7	24	71	69	44	10	0	1	367	2.78
4.4 4.8	0	5	25	43	32	0	4	6	6	38	64	62	33	2	0	0	325	2.47
4.8 5.2	0	4	11	29	32	0	0	0	0	42	134	81	19	1	0	0	367	2.78
5.2 5.6	0	4	13	35	32	0	0	1	6	29	131	105	18	3	0	1	386	2.92
5.6 6.0	0	7	17	39	48	0	0	0	7	30	132	106	13	3	1	0	401	3.03
6.0 6.4	0	7	20	51	42	0	0	0	1	12	45	121	133	14	4	0	448	3.37
6.4 6.8	0	10	48	41	0	0	0	0	0	12	52	160	119	17	3	0	470	3.57
6.8 7.2	0	0	39	52	0	0	0	0	1	7	53	121	105	13	1	0	400	3.04
7.2 7.6	0	0	34	49	0	0	0	0	14	87	119	76	12	1	0	0	403	3.05
7.6 8.0	0	0	58	54	0	0	0	0	26	93	107	75	16	2	0	0	438	3.31
8.0 8.4	0	0	0	0	0	0	0	1	22	79	87	124	14	4	0	0	438	3.24
8.4 8.8	0	0	0	0	0	0	0	1	20	83	95	94	17	2	0	0	421	3.19
8.8 9.2	0	0	0	0	0	0	0	0	17	99	93	101	17	2	0	0	410	3.12
9.2 9.6	0	0	0	0	0	0	0	0	13	94	79	102	23	2	0	0	379	2.80
9.6 10.0	0	0	0	0	0	0	0	0	105	59	102	17	2	0	0	0	416	2.39
10.0 10.4	0	0	0	0	0	0	0	0	17	118	74	64	31	1	0	0	376	2.84
10.4 10.8	0	0	0	0	0	0	0	0	24	99	4	40	26	1	0	0	380	1.76
10.8 11.2	0	0	0	0	0	0	0	0	34	109	24	30	25	1	0	0	333	1.73
11.2 11.6	0	0	0	0	0	0	0	0	27	103	4	22	16	0	0	0	360	1.36
11.6 12.0	0	0	0	0	0	0	0	0	35	120	10	26	18	2	0	0	310	1.60
12.0 12.4	0	0	0	0	0	0	0	0	37	104	6	14	9	1	0	0	370	1.29
12.4 12.8	0	0	0	0	0	0	0	0	45	124	4	20	3	0	0	0	200	1.51
12.8 13.2	0	0	0	0	0	0	0	0	62	106	0	12	10	0	0	0	194	1.47
13.2 13.6	0	0	0	0	0	0	0	0	61	110	0	4	3	0	0	0	178	1.35
13.6 14.0	0	0	0	0	0	0	0	0	75	70	2	7	0	0	0	0	165	1.25
14.0 14.4	0	0	0	0	0	0	0	0	66	66	0	1	5	0	0	0	142	1.07
14.4 14.8	0	0	0	0	0	0	0	0	85	49	0	0	4	0	0	0	143	1.08
14.8 15.2	0	0	0	0	0	0	0	0	73	47	0	1	3	0	0	0	134	0.94
15.2 15.6	0	0	0	0	0	0	0	0	61	28	0	0	2	0	0	0	144	0.71
15.6 16.0	0	0	0	0	0	0	0	0	33	27	0	0	4	0	0	0	66	0.50
16.0 16.4	0	0	0	0	0	0	0	0	22	19	0	0	0	0	0	0	41	0.31
16.4 16.8	0	0	0	0	0	0	0	0	17	17	0	0	2	0	0	0	43	0.37
16.8 17.2	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	13	0.40
17.2 17.6	0	0	0	0	0	0	0	0	25	70	0	0	1	0	0	0	45	0.34
17.6 18.0	0	0	0	0	0	0	0	0	26	15	0	0	1	0	0	0	45	0.34
18.0 18.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	0.32
18.4 18.8	0	0	0	0	0	0	0	0	10	20	0	0	1	0	0	0	2	0.24
18.8 19.2	0	0	0	0	0	0	0	0	6	14	0	0	0	0	0	0	1	0.17
19.2 19.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.23
19.6 20.0	0	0	0	0	0	0	0	0	4	11	0	0	0	0	0	0	15	0.11

TABLE D-36

JOINT FREQUENCY DISTRIBUTION TABLE
OCTOBER, 1986
WIND DIRECTION 46M VERSUS WIND SPEED 46M (2ND PARAMETER)

		WIND DIRECTION 46M RANGE (DEGREES)																	
		>= 348	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	TOTAL	PERCENT
2ND		< 11	33	56	78	101	123	146	168	191	213	236	258	281	303	326	348	FREQ	FREQ
PARAMETER																			
RANGE (M/S)																			
>																			
=																			
<																			
TOTALS		196	319	558	973	947	352	126	113	1191	2668	2048	2141	851	303	209	211	13215	100.00
PERCENT FREQ		1.5	2.4	4.2	7.4	7.2	2.7	1.0	0.9	9.0	20.2	15.5	16.2	6.5	2.3	1.6	1.6	100.00	

WIND_SPEED_46M
Average 2.3 2.7 3.2 5.3 5.7 3.2 2.9 3.1 12.3 10.8 6.4 6.7 5.8 3.2 2.4 2.3
Std Dev 0.4 1.1 1.5 2.5 2.6 1.1 0.8 1.3 4.3 4.1 2.4 2.8 3.8 2.0 0.0 0.4

Table Statistics
Total Count 13215
Minimum Count 196
Percent Recovery: 59.21 %

JOINT FREQUENCY DISTRIBUTION TABLE NOVEMBER, 1986

WIND DIRECTION 9M VERSUS WIND SPEED 9M (2ND PARAMETER)

WIND DIRECTION 9M RANGE (DEGREES)

2ND PARAMETER RANGE (M. S.)	WIND DIRECTION 9M RANGE (DEGREES)																TOTAL FREQ	PERCENT FREQ
	>= 346	11	33	56	78	101	123	146	168	191	213	236	258	281	303	326		
0.0 0.4																	0	0.00
0.4 0.8																	0	0.00
0.8 1.2																	0	0.00
1.2 1.6																	0	0.00
1.6 2.0																	0	0.07
2.0 2.4	25	32	31	30	22	30	20	32	34	21	28	31	482	5.70			482	5.70
2.4 2.8	13	12	31	15	7	4	3	17	13	26	29	23	18	281	3.32		281	3.32
2.8 3.2	4	4	22	31	15	3	1	10	13	30	20	17	24	12	216	2.55	216	2.55
3.2 3.6	10	19	3	10	19	3	10	13	30	20	17	24	12	170	2.03		170	2.03
3.6 4.0	3	19	29	3	10	13	30	20	17	24	12	170	2.03	200	2.44		200	2.44
4.0 4.4	2	19	32	11	3	3	0	13	55	87	21	21	7	5	217	2.56	217	2.56
4.4 4.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
4.8 5.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
5.2 5.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
5.6 6.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
6.0 6.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
6.4 6.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
6.8 7.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
7.2 7.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
7.6 8.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
8.0 8.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
8.4 8.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
8.8 9.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
9.2 9.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
9.6 10.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
10.0 10.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
10.4 10.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
10.8 11.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
11.2 11.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
11.6 12.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
12.0 12.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
12.4 12.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
12.8 13.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
13.2 13.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
13.6 14.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
14.0 14.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
14.4 14.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
14.8 15.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
15.2 15.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
15.6 16.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
16.0 16.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
16.4 16.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
16.8 17.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
17.2 17.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
17.6 18.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
18.0 18.4	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
18.4 18.8	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
18.8 19.2	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
19.2 19.6	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07
19.6 20.0	1	26	23	3	3	0	16	58	88	17	17	5	4	366	3.07		366	3.07

THE FOLLOWING TABLES
 SHOW THE SPEED BY OF
 RANGE IN
 RANGE IN

PARAMETER																		
RANGE (N/S)																		
> = <																		
>= 342	11	33	56	78	101	123	146	168	191	213	236	259	281	303	326	349	TOTAL	PERCENT
< 11	33	56	78	101	123	146	168	191	213	236	259	281	303	326	349	TOTAL	PERCENT	PERCENT
20.0 20.4	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0	57	0.78
20.4 20.8	0	0	0	0	0	0	0	0	0	54	0	0	0	0	0	0	54	0.72
20.8 21.2	0	0	0	0	0	0	0	0	0	52	0	0	0	0	0	0	52	0.69
21.2 21.6	0	0	0	0	0	0	0	0	0	72	0	0	0	0	0	0	72	0.95
21.6 22.0	0	0	0	0	0	0	0	0	0	50	0	0	0	0	0	0	50	0.61
22.0 22.4	0	0	0	0	0	0	0	0	0	35	0	0	0	0	0	0	35	0.43
22.4 22.8	0	0	0	0	0	0	0	0	0	32	0	0	0	0	0	0	32	0.38
22.8 23.2	0	0	0	0	0	0	0	0	0	29	0	0	0	0	0	0	29	0.34
23.2 23.6	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	17	0.22
23.6 24.0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	12	0.14
24.0 24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02
24.4 24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
24.8 25.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
25.2 25.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
25.6 26.0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0.01
26.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
TOTALS	66	57	132	448	413	155	37	29	49	2167	1353	1902	1173	245	134	100	8463	100.00

WIND SPEED
 Average
 Std Dev

Table Statistics

Monthly Count: 21600
 Percent Recovery: 39.16 %

TABLE D-37 (CONTINUED)

[illegible]

RANGE (M.S.)

[illegible]

MOE - U3a5 - CN114

Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Std Dev.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table Statistics

Total Count: 0

Percent Recovery: 0.00 %

TABLE D-38 (CONTINUED)

7561 'Gāyatrī'.

(SEGREG) ENVI. M. F. NO. 103310 C.

[illegible]

TABLE D-39

APPENDIX E

WIND SHEAR AND TURBULENCE DATA

Section 1

Joint Frequency Count Arrays

TABLE OF CONTENTS

<u>Array Type</u>	<u>Table Numbers</u>
Turbulence Intensity and Time of Day	01-06
Turbulence Intensity and Wind Speed	07-12
Turbulence Intensity and Wind Direction	13-18
Turbulence Intensity and Atmospheric Stability	19-24
Acrosswind Turbulence and Alongwind Turbulence	25-27
Wind Shear and Time of Day	28-30
Wind Shear and Wind Speed	31-33
Wind Shear and Wind Direction	34-36
Wind Shear and Maximum Wind Shear	37-39
Wind Shear and Turbulence Intensity	40-41

HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																				
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95	
00	01	686	3370	2220	662	243	110	59	29	30	21	13	11	6	8	3	5	1	4	6	41	
01	02	642	3403	2185	704	258	113	74	19	27	18	9	10	8	4	5	4	2	3	6	30	
02	03	567	3327	2113	691	235	104	66	40	25	13	14	4	7	9	7	5	4	1	5	52	
03	04	592	3163	2327	652	265	113	58	39	23	16	17	5	10	4	9	2	5	2	1	44	
04	05	504	3214	2302	698	264	104	49	36	22	11	10	6	8	4	3	9	2	4	4	34	
05	06	421	3183	2381	662	264	117	46	29	26	9	12	7	5	4	4	2	0	3	1	39	
06	07	387	3203	2450	742	235	115	62	33	15	17	11	11	12	4	4	4	6	0	5	27	
07	08	255	3200	2674	798	243	94	59	39	30	14	11	10	3	4	2	2	2	4	0	40	
08	09	117	2864	3005	822	284	116	46	22	21	13	7	5	1	4	5	5	2	2	0	23	
09	10	91	2508	3111	1002	318	142	60	36	21	13	14	8	3	3	4	1	1	1	1	27	
10	11	43	2394	3131	1120	374	149	71	29	18	15	5	7	5	6	5	3	6	6	2	37	
11	12	08	2139	3270	1194	412	146	56	38	19	17	9	6	3	3	4	3	3	2	0	26	
12	13	40	2033	3309	1332	406	164	67	34	15	7	3	5	4	3	2	4	5	3	1	0	23
13	14	49	2095	3411	1207	438	154	68	44	25	13	8	7	4	0	4	6	2	2	0	32	
14	15	47	2171	3397	1211	417	162	61	35	19	11	13	4	3	3	2	2	4	2	1	12	
15	16	41	2423	3347	1127	318	132	63	28	17	5	8	5	6	1	2	4	3	2	4	19	
16	17	14	2765	3260	1005	278	90	28	22	15	12	3	3	3	3	2	1	1	1	4	18	
17	18	10	3202	3006	735	220	71	30	19	10	8	5	2	5	2	4	2	3	0	1	11	
18	19	10	3459	2676	664	172	61	28	15	8	7	7	2	3	3	2	3	1	1	0	7	
19	20	03	3570	2546	592	189	76	36	17	12	8	5	4	2	3	3	1	1	1	0	14	
20	21	11	3535	2471	615	163	95	37	25	13	13	2	3	2	6	0	3	2	4	1	22	
21	22	55	3495	2506	639	201	94	48	22	22	8	7	10	4	5	6	1	4	4	3	30	
22	23	56	3414	2503	668	234	90	58	35	25	10	14	9	9	6	4	8	0	4	0	26	
23	24	618	3367	2359	716	254	88	54	38	26	22	8	7	5	5	4	7	3	5	5	41	

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	<	TURBULENCE INTENSITY RANGE, PERCENT																										>=95
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95								
00	01	830	2855	1398	433	187	76	42	25	28	12	15	10	5	6	1	1	2	1	2	26							
01	02	826	2929	1348	473	171	74	32	28	20	19	7	7	4	3	2	2	1	1	2	11							
02	03	710	2979	1305	371	158	72	49	28	23	16	17	8	13	5	1	4	7	3	5	35							
03	04	734	2800	1301	418	171	80	45	28	20	17	15	17	9	4	0	4	9	1	2	33							
04	05	697	2799	1267	456	189	85	48	26	11	13	10	9	8	4	3	5	1	1	2	36							
05	06	679	2777	1345	460	195	110	57	32	28	17	14	6	10	4	8	3	5	5	4	32							
06	07	505	2863	1397	456	186	99	53	42	23	19	17	17	6	5	10	2	6	5	3	44							
07	08	397	2890	1550	447	160	83	45	33	23	19	14	11	7	5	1	2	3	1	1	32							
08	09	282	2960	1725	506	166	83	37	26	30	12	9	4	7	3	6	0	1	4	2	20							
09	10	190	2824	1833	576	211	96	48	29	21	4	11	7	2	3	5	7	2	2	3	22							
10	11	156	2715	1895	691	256	101	56	23	16	12	7	7	4	8	1	3	2	5	3	28							
11	12	171	2587	1954	650	245	99	58	34	19	9	7	5	3	1	0	2	1	4	4	15							
12	13	154	2518	2025	703	244	110	46	25	13	7	3	7	3	7	1	2	2	1	3	17							
13	14	138	2563	2054	633	242	119	52	36	21	9	12	7	5	2	2	1	0	3	2	23							
14	15	135	2681	1910	626	256	112	51	29	16	15	4	3	3	3	1	5	3	1	2	15							
15	16	176	2778	1966	575	224	98	43	17	15	8	8	3	3	1	4	2	2	3	0	29							
16	17	264	3044	1810	511	189	82	33	18	13	9	3	8	7	2	4	3	2	1	0	17							
17	18	369	3336	1631	425	160	47	28	15	12	11	3	2	3	2	3	2	2	0	1	13							
18	19	528	3457	1446	402	123	58	25	16	8	4	6	7	2	0	0	1	1	1	2	18							
19	20	771	3329	1374	354	144	56	31	22	14	12	5	1	8	0	0	1	1	1	0	14							
20	21	821	3228	1377	383	140	63	34	20	15	12	4	7	0	4	3	3	5	1	4	18							
21	22	823	3097	1463	413	139	68	34	16	23	11	11	8	5	7	2	4	3	2	3	23							
22	23	649	3132	1557	402	168	71	48	18	19	11	8	5	3	6	5	6	3	3	3	21							
23	24	721	2925	1457	446	171	96	55	32	33	10	14	16	4	5	8	6	6	1	4	35							

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	<																				
00	01	975	3208	1471	540	219	99	59	43	20	23	7	6	5	8	2	3	6	4	0	38
01	02	1075	3198	1500	553	185	113	40	34	16	18	18	9	5	5	2	3	3	3	1	27
02	03	997	3227	1452	451	202	83	62	29	31	13	11	8	9	4	12	4	4	0	5	37
03	04	909	3256	1405	480	195	116	45	50	30	21	19	11	6	7	4	2	4	11	2	33
04	05	966	3185	1342	516	243	95	63	39	25	12	12	8	7	14	7	5	2	3	2	40
05	06	900	3267	1325	549	232	116	69	40	29	20	14	11	9	14	5	3	2	2	5	34
06	07	780	3313	1360	529	218	110	69	39	25	32	7	9	9	6	15	2	6	4	3	54
07	08	705	3363	1543	514	205	104	71	34	26	20	10	4	5	10	5	7	4	1	2	37
08	09	466	3500	1699	562	207	79	62	35	19	19	16	5	9	4	4	11	1	1	2	28
09	10	309	3367	1836	681	218	95	47	25	20	19	12	17	3	8	7	6	6	2	7	30
10	11	271	3391	1926	690	248	98	46	30	22	12	7	7	5	5	6	1	2	2	1	33
11	12	294	3304	1999	685	234	85	38	22	15	12	10	7	4	2	3	3	2	2	1	26
12	13	274	3370	2040	687	230	97	35	25	9	9	5	4	4	1	2	1	1	3	2	25
13	14	267	3303	2148	631	254	110	42	18	20	14	7	5	3	2	6	6	4	2	1	22
14	15	265	3530	2011	634	236	97	42	20	17	9	7	8	4	5	3	4	2	3	0	17
15	16	141	3634	1979	597	185	84	32	18	15	7	7	7	6	4	3	1	7	0	4	27
16	17	481	3809	1799	505	188	68	41	13	12	11	4	3	2	4	3	2	2	1	1	13
17	18	743	3964	1564	440	156	51	15	10	16	13	12	3	1	3	2	3	2	1	1	16
18	19	687	3854	1410	419	160	72	24	22	10	7	6	9	5	5	3	2	2	2	1	17
19	20	1182	3632	1391	460	160	71	39	23	20	10	5	8	4	4	3	2	3	4	0	15
20	21	1067	3636	1463	459	174	76	35	24	21	9	11	7	3	3	3	3	3	1	2	21
21	22	1517	3479	1566	549	184	82	40	27	14	19	12	9	4	4	4	5	1	4	3	19
22	23	997	3404	1626	551	210	92	59	36	23	16	14	11	7	5	1	6	4	5	5	32
23	24	928	3255	1612	530	207	100	51	43	35	23	21	13	5	4	8	5	8	5	4	44

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	<	TURBULENCE INTENSITY RANGE, PERCENT																	>95		
		5-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85		85-90	90-95
00	01	378	3314	2017	696	345	196	142	101	66	44	32	30	22	25	11	14	11	8	9	67
01	02	308	3232	2083	765	400	202	142	83	63	64	34	28	23	20	16	18	15	6	4	58
02	03	296	3135	1952	760	403	231	148	95	81	49	39	29	30	19	11	9	10	6	7	74
03	04	307	3143	1939	752	378	222	134	99	70	45	38	31	20	24	15	17	14	9	6	77
04	05	200	3120	1978	727	416	226	132	95	73	51	36	26	27	16	6	8	9	7	8	56
05	06	302	3284	2015	707	338	203	128	73	59	36	33	20	18	13	7	7	5	6	5	56
06	07	196	3169	2095	768	366	218	161	73	43	42	47	17	23	19	14	8	11	3	12	58
07	08	161	2939	2224	759	440	236	150	90	61	46	32	30	17	15	7	8	9	6	5	59
08	09	51	2822	2361	884	452	231	178	100	61	49	41	22	12	15	15	8	6	10	5	39
09	10	54	2461	2579	970	477	230	163	105	82	53	41	27	25	18	8	14	5	10	7	36
10	11	43	2290	2542	1077	520	301	189	123	69	40	40	27	25	23	10	17	12	12	10	56
11	12	43	2193	2625	1196	498	281	166	117	63	38	30	25	19	12	14	7	9	4	4	45
12	13	52	2079	2774	1241	576	269	155	95	52	33	20	16	20	10	8	9	4	6	2	35
13	14	53	2078	2854	1342	528	231	142	77	53	38	35	17	22	17	13	10	9	5	5	42
14	15	80	2107	3065	1255	448	198	137	80	55	38	22	14	12	10	11	3	5	8	1	26
15	16	46	2416	3059	1091	432	192	104	50	43	39	26	15	14	18	14	9	3	1	6	36
16	17	89	2799	2966	979	370	143	73	57	37	26	9	8	11	13	4	1	6	2	3	19
17	18	194	3429	2680	708	292	117	64	61	21	19	9	10	10	9	5	4	3	3	3	19
18	19	262	3901	2278	622	231	104	80	61	22	19	12	14	7	9	8	2	3	2	0	16
19	20	340	4087	2052	515	260	126	84	44	53	17	23	10	6	13	8	5	3	2	0	16
20	21	380	3915	1996	559	245	172	79	66	51	32	20	23	15	7	3	6	6	5	7	36
21	22	334	3793	1999	647	310	168	108	69	43	35	26	15	12	21	15	8	2	6	4	47
22	23	240	3640	1990	710	347	218	126	101	64	54	40	25	16	20	14	11	6	8	4	49
23	24	252	3403	2111	718	337	221	139	91	77	40	40	40	18	32	10	9	10	6	4	73

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP.1985 - NOV,1986.

HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																								
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95					
>=	<	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
		624	2701	1256	513	279	148	98	82	38	43	26	20	14	16	10	15	11	8	2	46					
		567	2659	1243	581	324	197	123	67	47	31	24	18	17	6	9	6	6	5	6	24					
		513	2648	1192	548	303	157	112	73	46	37	20	20	20	12	16	13	9	8	6	56					
		526	2557	1167	547	285	170	121	80	43	33	35	20	12	7	15	12	9	8	10	51					
		443	2657	1173	533	270	166	127	86	50	29	17	18	12	12	8	5	6	8	2	48					
		515	2623	1187	550	299	160	109	80	51	45	37	24	11	13	13	4	12	3	3	52					
		401	2563	1261	548	294	181	111	90	46	51	31	27	21	15	19	12	11	7	6	63					
		344	2630	1252	525	306	209	119	83	51	39	36	21	16	13	6	10	15	5	7	37					
		221	2706	1382	586	300	200	133	94	57	40	35	26	18	15	7	7	5	11	7	33					
		178	2518	1604	603	335	202	119	77	63	43	37	19	16	15	9	3	7	7	3	38					
		182	2341	1666	718	407	229	140	80	57	41	25	13	15	10	15	11	6	4	3	45					
		210	2330	1642	716	374	210	113	66	43	37	22	17	17	11	8	10	7	5	4	26					
		161	2260	1796	789	380	174	97	60	45	25	15	17	11	8	11	6	6	1	4	25					
		139	2190	1947	772	344	179	91	66	42	33	26	19	10	11	6	5	9	3	3	29					
		145	2293	1903	735	330	151	97	55	38	21	22	12	11	8	7	2	6	5	3	25					
		147	2498	1869	724	264	149	75	54	38	20	14	16	14	9	7	10	4	4	6	33					
		211	2778	1836	580	218	104	78	49	30	27	13	19	6	11	2	6	6	6	5	14					
		203	3305	1563	444	181	89	59	34	32	25	9	13	6	7	3	0	4	4	3	19					
		420	3387	1375	434	180	118	49	35	25	15	11	6	6	9	2	2	4	4	4	19					
		592	3424	1201	397	196	103	58	39	25	23	17	12	10	7	5	3	3	5	1	17					
		633	3342	1107	381	219	128	71	46	36	18	19	14	8	13	6	5	1	5	2	28					
		615	3298	1207	413	171	151	61	55	36	25	24	17	10	8	10	2	7	4	5	36					
		490	3153	1215	490	267	136	99	82	52	32	19	19	14	11	7	9	4	1	4	34					
		532	3717	1289	550	300	187	120	63	56	48	27	30	20	7	14	8	5	9	6	57					

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP. 1985 - NOV. 1986.

HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	<	850	2936	1289	575	349	193	121	70	63	47	52	29	25	19	22	12	14	8	6	56
01	01	816	2896	1303	639	404	239	142	86	68	35	32	29	21	24	8	10	8	4	4	40
02	02	806	2831	1355	578	330	206	136	83	54	58	32	18	27	17	12	10	14	8	3	63
03	03	720	2971	1295	531	311	223	138	108	51	48	43	35	26	25	11	16	8	7	5	55
04	04	803	2894	1267	622	308	197	117	85	61	52	32	18	18	15	13	6	12	10	8	50
05	05	902	2929	1153	582	324	205	128	95	68	48	48	32	16	15	13	8	7	8	10	55
06	06	699	2921	1337	561	291	204	118	106	73	42	46	26	32	16	15	12	11	8	8	70
07	07	601	3071	1276	554	335	251	162	95	68	50	39	29	17	20	14	11	6	7	6	58
08	08	423	3137	1416	586	348	209	177	103	73	55	34	25	22	20	13	11	10	9	5	54
09	09	319	2956	1682	620	342	205	160	98	66	57	32	27	19	16	17	9	8	14	6	62
10	10	315	2940	1663	736	396	232	143	98	64	38	31	29	26	9	8	9	7	8	3	48
11	11	340	2934	1728	730	352	218	135	79	52	38	27	22	11	14	8	11	7	3	2	38
12	12	272	2929	1861	821	387	200	110	59	36	34	18	18	11	10	5	6	3	3	6	35
13	13	277	2928	2028	741	374	193	99	69	46	36	29	13	14	7	12	6	5	2	2	44
14	14	281	3124	2000	711	299	159	104	57	30	34	22	14	8	12	9	5	6	5	2	32
15	15	364	3243	1924	702	249	148	83	57	30	29	23	13	13	9	12	8	5	3	3	40
16	16	444	3583	1783	563	232	112	56	41	34	13	15	13	14	10	10	5	4	4	3	25
17	17	642	3916	1492	448	186	91	50	50	30	25	15	9	6	9	5	7	5	3	2	22
18	18	874	3690	1383	456	217	115	80	43	28	28	12	13	12	9	5	6	4	5	4	32
19	19	1045	3670	1205	458	244	121	78	53	34	24	18	14	7	12	8	5	3	3	3	30
20	20	1065	3506	1222	450	314	134	83	63	38	25	18	17	23	9	7	4	3	4	5	31
21	21	1034	3413	1305	459	271	158	91	62	45	39	28	22	23	13	13	8	6	7	8	37
22	22	882	3269	1188	601	334	183	139	92	53	47	42	33	23	8	19	10	9	11	4	57
23	23	827	2967	1307	632	349	227	128	93	70	64	30	24	24	13	22	20	12	11	11	70

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0.0 2.0	2125	6967	1307	441	232	113	82	58	31	38	14	17	8	8	10	10	6	6	4	75
2.0 4.0	3769	16365	10993	5604	2882	1574	842	512	372	227	181	120	107	86	76	80	54	49	46	580
4.0 6.0	1969	12695	10598	3962	1390	538	226	109	60	24	18	11	4	3	3	2	1	0	2	9
6.0 8.0	561	12998	13829	3757	933	219	70	27	13	7	2	3	1	0	0	0	0	0	0	1
8.0 10.0	131	9979	11890	2869	606	125	35	13	3	3	0	0	0	0	0	0	0	0	0	0
10.0 12.0	41	5936	8087	1671	311	66	15	3	4	1	0	0	1	0	0	0	0	0	0	0
12.0 14.0	6	2959	3981	862	158	37	9	0	1	1	0	0	0	0	0	0	0	0	0	0
14.0 16.0	2	1369	2246	521	98	19	2	1	0	0	0	0	0	0	0	0	0	0	0	0
16.0 18.0	0	1014	1666	283	40	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0 20.0	0	633	861	177	17	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0 22.0	0	278	419	73	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0 24.0	0	110	147	28	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0 26.0	0	31	30	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0 28.0	0	3	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0 30.0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0 32.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0 34.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0 36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0 38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0 40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0 42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0 44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0 46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0 48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND WIND SPEED(9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>	<=	547	2193	2310	1822	1335	896	631	455	321	228	172	126	87	95	55	53	36	27	26	137
0.0	2.0	2257	10554	10045	6661	4301	2780	1902	1314	921	654	506	368	312	292	187	158	141	114	101	951
2.0	4.0	1314	13228	9883	4044	1733	645	377	156	79	55	40	16	18	10	5	4	0	4	2	11
4.0	6.0	469	14743	12152	3520	1013	311	121	41	24	8	4	7	4	1	0	0	1	1	0	1
6.0	8.0	130	12218	10128	2366	565	164	44	23	10	1	2	0	3	0	0	0	0	0	0	0
8.0	10.0	46	8400	6138	1176	262	73	25	9	3	1	1	2	0	0	0	0	0	0	0	0
10.0	12.0	14	4583	2730	502	120	44	12	7	1	0	0	0	0	0	0	0	0	0	0	1
12.0	14.0	2	2558	1397	212	62	15	8	1	3	0	0	0	0	0	0	0	0	0	0	0
14.0	16.0	1	2025	879	87	13	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0	18.0	1	1280	360	45	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0	20.0	0	643	131	10	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0	22.0	0	257	29	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0	24.0	1	56	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0	26.0	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0	28.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0	30.0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0	32.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0	34.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0	36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0	38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0	40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0	42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0	44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0	46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0	48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND WIND SPEED(9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>=95
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
0.0 2.0	1910	6471	2272	954	463	269	172	107	106	67	38	51	27	24	17	26	29	25	23	240
2.0 4.0	2300	8287	6845	3965	2120	1120	647	383	299	187	163	116	89	60	54	43	36	25	31	328
4.0 6.0	2213	9384	6043	2232	855	357	150	93	48	25	17	13	5	3	0	1	3	0	2	7
6.0 8.0	2211	12186	6658	1544	441	148	40	17	6	7	4	2	1	2	0	0	1	0	1	1
8.0 10.0	1596	12249	6224	1208	267	61	17	9	5	2	1	0	2	1	0	0	0	0	0	0
10.0 12.0	867	9079	4371	815	149	31	18	6	0	0	1	0	0	0	0	1	0	0	0	0
12.0 14.0	358	5693	2617	466	91	29	3	3	0	0	0	0	0	0	0	0	0	0	0	0
14.0 16.0	137	2828	1392	282	57	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0 18.0	49	1625	881	177	32	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0 20.0	26	1031	545	81	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0 22.0	42	681	297	51	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0 24.0	11	326	141	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0 26.0	2	164	63	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0 28.0	3	45	27	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0 30.0	0	12	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0 32.0	1	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0 34.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0 36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0 38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0 40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0 42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0 44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0 46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0 48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND WIND SPEED(30 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>=95
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
>																				
<=																				
0.0	519	1928	2331	2036	1558	1212	827	669	421	343	241	196	139	126	97	83	75	63	52	375
2.0	1434	6394	6103	4290	2811	1679	1144	714	515	372	286	224	158	122	111	77	53	62	52	465
4.0	1680	8691	6085	2704	1115	552	254	142	84	49	28	12	14	6	7	5	3	5	1	14
6.0	1918	12120	6354	1889	625	226	69	36	11	9	6	2	3	0	0	1	0	1	0	0
8.0	1510	12607	5689	1329	333	95	45	19	7	8	0	0	1	0	0	0	0	0	0	0
10.0	904	9547	3856	744	190	61	21	6	5	0	0	2	0	0	0	0	0	1	0	0
12.0	471	6262	1992	375	109	35	8	6	1	0	0	1	0	0	0	0	0	0	0	0
14.0	232	3211	988	194	50	20	11	2	2	0	0	0	0	0	0	0	0	0	0	0
16.0	160	1917	576	80	25	10	0	2	0	0	0	0	0	0	0	0	0	0	0	0
18.0	100	1313	242	29	5	6	1	0	1	0	0	0	0	0	0	0	0	0	0	0
20.0	95	877	94	7	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0	66	418	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0	32	202	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0	14	65	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0	2	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND WIND SPEED(30 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>=95
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
0.0 2.0	1634	5708	1511	557	274	149	89	58	55	38	33	24	16	26	14	15	13	17	5	121
2.0 4.0	3070	10480	7859	4703	2352	1308	735	517	358	288	202	152	99	92	88	75	57	44	45	545
4.0 6.0	2595	9427	6307	2751	1046	423	203	94	65	29	17	7	7	11	7	5	2	3	4	16
6.0 8.0	3044	12964	6704	1918	584	144	62	20	8	9	1	2	1	0	1	0	1	2	1	3
8.0 10.0	2708	13773	6121	1364	315	79	17	4	3	3	1	1	0	0	0	1	0	1	0	1
10.0 12.0	1712	10835	4339	795	168	46	10	4	0	0	0	1	0	0	0	0	0	0	0	0
12.0 14.0	1049	7603	2669	472	87	22	6	2	0	0	0	1	0	0	0	0	0	0	0	0
14.0 16.0	576	4159	1440	269	61	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0 18.0	260	2596	1030	185	41	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0 20.0	160	1925	673	100	15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0 22.0	138	1522	400	51	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0 24.0	98	775	250	32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0 26.0	53	473	98	9	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
26.0 28.0	23	216	40	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0 30.0	7	36	22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0 32.0	2	13	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0 34.0	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0 36.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0 38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0 40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0 42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0 44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0 46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0 48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND WIND SPEED(46 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE	TURBULENCE INTENSITY RANGE, PERCENT																				
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95	
>	<=																				
0.0 2.0	464	1634	1844	1547	1223	932	661	481	335	282	191	140	101	91	66	40	39	28	27	231	
2.0 4.0	1880	7063	6584	4817	3465	2285	1601	1094	773	586	479	350	315	226	198	169	128	122	91	843	
4.0 6.0	2178	9014	6203	2909	1237	639	321	187	89	78	40	28	20	13	15	6	9	5	1	27	
6.0 8.0	2997	12850	6468	1995	714	261	108	39	14	10	5	2	1	1	1	0	0	0	0	3	
8.0 10.0	2734	13831	5687	1461	451	136	44	23	14	7	1	2	0	0	0	0	0	0	0	0	
10.0 12.0	1743	11049	3932	844	207	90	26	10	7	2	1	0	0	0	0	0	0	0	0	0	
12.0 14.0	1339	7769	2229	385	137	34	8	6	1	1	1	0	0	0	0	0	0	0	0	0	
14.0 16.0	732	4360	1115	211	66	25	3	2	2	0	0	0	0	0	0	0	0	0	0	0	
16.0 18.0	485	2727	740	114	36	11	5	2	0	0	0	0	0	0	0	0	0	0	0	0	
18.0 20.0	344	2084	391	43	6	6	1	1	0	0	0	0	0	0	1	0	0	0	0	0	
20.0 22.0	269	1656	165	23	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
22.0 24.0	232	846	72	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
24.0 26.0	106	502	24	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
26.0 28.0	68	212	4	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	
28.0 30.0	22	41	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
30.0 32.0	5	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
32.0 34.0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
34.0 36.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
36.0 38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
38.0 40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
40.0 42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
42.0 44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
44.0 46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
46.0 48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
48.0 50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND WIND SPEED(46 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	>=		<		>=		<		>=		<		>=		<		>=		<	
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	259	1893	1471	724	338	162	77	43	32	20	14	7	9	9	4	7	5	3	3	4
11	261	1432	938	453	221	143	61	34	31	14	22	5	10	5	9	8	1	6	1	41
33	451	2194	1373	594	306	157	82	37	25	21	13	14	8	3	5	7	2	4	7	44
56	878	6968	5302	1209	389	157	76	43	32	13	14	10	10	3	6	6	3	1	4	33
78	658	7686	8384	1889	428	160	75	33	23	15	8	10	2	3	4	3	8	5	1	39
101	123	459	2734	1621	466	150	67	21	24	17	12	6	12	3	4	5	6	3	4	58
123	146	670	1890	723	271	133	79	32	24	12	12	6	8	8	3	4	2	3	3	45
146	168	484	1323	501	259	141	74	44	38	22	11	14	7	4	8	7	6	4	1	33
168	191	632	3832	3283	948	346	114	59	44	33	17	11	10	4	6	5	1	4	2	45
191	213	762	10687	12611	3276	778	237	87	52	33	22	11	9	7	3	4	2	4	1	35
213	236	1300	10028	9037	2545	777	318	146	66	54	20	14	8	13	9	9	2	5	7	30
236	258	950	12033	8446	2178	734	282	116	73	33	20	18	6	5	5	4	6	3	1	41
258	281	303	4472	7276	2746	775	274	134	69	28	30	8	12	6	9	9	3	1	4	43
281	303	149	1359	2345	1315	485	173	91	44	25	19	16	5	7	5	4	3	5	3	37
303	326	193	1383	1116	627	342	158	81	55	35	25	13	7	5	6	6	8	7	3	5
326	348	195	1423	1633	758	342	150	87	47	31	25	9	14	9	6	4	9	6	4	57

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND WIND DIRECTION(9 METERS)
 AT LIVINGSTON, MONTANA.
 DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE		TURBULENCE INTENSITY RANGE, PERCENT																			
		(DEGREES,																			
		>=	<	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
348	11	159	1469	1297	737	413	297	189	145	85	59	61	33	23	17	17	13	15	12	7	79
11	33	68	654	820	659	426	299	200	134	86	70	48	28	35	22	19	16	15	5	12	70
33	56	216	1316	1419	875	494	317	194	132	71	69	37	30	23	23	15	20	13	8	9	66
56	78	493	6447	4982	1484	677	344	209	139	81	63	48	33	20	24	15	11	11	10	5	61
78	101	648	11154	5255	994	445	246	162	111	85	62	48	40	32	25	20	17	6	8	10	66
101	123	408	2575	1208	492	291	163	116	88	58	49	35	37	24	23	8	13	9	14	12	85
123	146	438	1367	821	429	239	163	124	67	61	34	33	22	21	18	16	7	9	5	7	70
146	168	244	766	673	395	238	180	128	66	57	35	36	24	16	20	14	12	6	8	7	59
168	191	367	5133	2126	645	337	197	140	106	72	61	28	30	20	28	12	16	10	7	6	72
191	213	391	14993	9311	2227	772	305	197	114	81	50	32	19	19	22	8	6	14	10	4	53
213	236	582	9756	8505	2926	1234	539	272	155	106	60	43	37	27	26	17	16	13	8	12	68
236	259	479	11539	8061	2526	1008	491	266	154	96	74	52	38	28	29	13	15	11	10	6	72
258	281	125	3817	6841	2877	1116	435	305	165	117	73	68	42	36	34	21	13	18	8	7	87
281	303	45	590	2184	1448	680	341	230	137	104	58	59	32	33	32	19	13	10	14	5	61
303	326	81	569	1033	788	519	306	212	150	92	66	49	44	46	35	15	15	12	11	8	61
326	348	38	594	1658	946	520	313	180	143	110	64	48	30	21	20	18	12	6	8	12	71

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND WIND DIRECTION(9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	11	290	1414	1017	546	319	151	69	47	29	22	22	12	5	2	6	8	3	3	5	36
11	33	277	1248	761	368	181	97	71	41	18	16	13	11	8	6	2	4	2	6	3	35
33	56	564	2168	1170	522	236	127	66	34	29	9	8	9	4	5	4	4	7	3	4	43
56	78	1093	8235	3350	747	332	139	57	39	26	20	13	7	8	7	6	5	5	3	5	44
78	101	668	6860	4906	1090	309	115	65	39	17	12	13	5	13	5	3	3	7	1	2	50
101	123	287	1669	1052	389	119	78	42	27	18	16	9	8	4	9	4	0	2	1	2	26
123	146	236	672	389	188	110	58	46	26	21	15	11	12	7	4	5	3	7	3	3	31
146	168	175	643	336	182	107	60	46	23	20	16	16	13	8	6	4	2	4	5	3	38
168	191	919	6012	2740	777	239	114	46	21	37	18	15	10	8	6	10	4	3	4	1	31
191	213	1268	11022	5752	1505	450	177	91	46	36	13	17	15	7	7	4	7	4	3	7	33
213	236	2124	9119	4434	1327	447	198	78	65	36	20	12	16	4	11	9	6	9	3	6	36
236	258	2604	10523	4568	1348	427	195	97	45	38	23	17	11	9	5	4	2	2	1	4	28
258	281	655	6256	4203	1178	430	152	79	44	41	18	21	15	9	6	1	8	3	2	2	39
281	303	213	1665	1438	608	279	137	61	39	36	23	11	14	12	3	3	3	5	3	3	38
303	326	182	1035	936	484	242	106	60	43	32	24	12	16	8	4	4	6	5	7	5	37
326	348	171	1525	1336	551	268	134	76	39	30	23	14	8	10	4	2	6	1	2	2	32

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND WIND DIRECTION(30 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

WIND DIRECTION RANGE		TURBULENCE INTENSITY RANGE, PERCENT																			
(DEGREES)		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	<																				
348	11	165	1159	958	602	363	227	131	90	65	42	27	32	25	13	13	10	16	5	4	59
11	33	138	675	709	498	376	216	148	98	69	44	40	24	11	17	14	16	15	7	6	47
33	56	263	1511	1216	728	428	262	170	108	74	52	29	25	19	19	14	16	12	12	6	52
56	78	598	7148	3816	1171	508	286	169	126	55	49	35	27	25	23	9	14	5	6	4	67
78	101	1384	8701	2341	669	338	214	133	79	68	51	39	26	15	18	16	6	5	11	9	60
101	123	264	1572	792	380	210	140	92	75	35	44	27	22	13	18	10	8	11	9	5	35
123	146	82	388	399	262	187	121	80	71	47	26	29	23	16	17	11	7	14	4	8	55
146	168	73	334	358	259	169	119	81	51	50	33	30	21	17	10	8	9	15	11	4	55
168	191	1043	7095	1497	524	277	155	106	70	49	39	29	29	21	5	7	6	5	5	4	50
191	213	1009	11162	5254	1620	638	260	158	84	61	42	38	19	17	8	17	9	5	5	11	47
213	236	1408	7889	4777	1858	843	445	223	135	93	63	38	27	20	19	20	11	10	11	8	62
236	258	1946	9749	4786	1673	693	381	210	148	92	60	42	37	24	17	13	11	9	6	6	48
258	281	496	5387	4018	1553	658	329	208	126	79	63	45	42	25	22	19	7	10	11	8	56
281	303	110	1021	1356	748	423	283	170	122	75	58	41	37	26	17	13	12	10	10	6	56
303	326	78	565	771	552	373	252	169	127	78	61	38	20	23	18	16	11	10	13	8	65
326	348	81	1222	1286	580	342	208	132	86	57	54	34	26	18	13	15	13	11	7	8	41

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND WIND DIRECTION(30 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348 11	358	1620	1014	510	279	136	73	41	26	20	10	10	4	7	4	10	2	5	4	49
11 33	353	1355	758	379	193	88	46	31	15	21	5	8	7	5	4	4	2	3	2	44
33 56	644	2156	1051	500	216	111	53	30	23	17	12	12	7	10	1	5	2	5	6	41
56 78	1594	9092	3103	737	262	150	55	35	30	17	12	11	7	5	3	5	9	1	1	39
78 101	670	8147	5252	1937	625	153	89	40	25	21	25	13	10	8	5	7	9	5	6	36
101 123	168	1489	1289	738	238	100	53	38	28	17	14	7	8	13	5	4	4	4	2	39
123 146	213	608	342	186	118	43	55	37	28	22	17	11	7	9	9	6	5	3	2	48
146 168	105	482	313	200	102	78	64	39	29	22	18	14	8	5	9	8	1	6	1	42
168 191	1268	4945	1786	564	229	123	71	56	56	32	20	20	4	8	9	5	6	6	4	54
191 213	2206	15529	6611	1642	519	227	84	58	36	34	22	17	8	10	12	5	5	5	5	40
213 236	2725	10817	5149	1528	517	218	105	77	40	28	15	15	12	12	10	8	8	4	4	46
236 258	4639	13607	5006	1505	532	214	111	58	28	29	27	15	9	7	11	6	4	2	2	47
258 281	1420	7937	4207	1217	392	193	98	49	38	25	19	14	6	11	5	7	8	6	4	42
281 303	353	1924	1508	616	281	128	55	41	26	23	16	1	5	8	7	4	3	7	5	28
303 326	203	1105	858	433	217	121	56	27	35	21	14	5	15	6	8	4	3	5	3	36
326 348	212	1696	1220	520	230	110	58	42	27	19	8	15	6	5	8	8	2	4	4	55

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND WIND DIRECTION(46 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
348 11	248	1250	943	579	358	202	149	99	67	48	38	25	27	30	12	8	11	11	8	69
11 33	154	632	626	545	402	273	193	132	75	62	46	30	21	24	15	13	6	6	5	63
33 56	278	1344	1087	733	440	295	183	141	96	57	50	36	24	12	19	14	16	8	4	65
56 78	1320	7936	3254	1067	572	316	195	134	70	64	42	30	35	25	19	7	6	7	3	66
78 101	2903	9849	2366	710	328	202	155	114	73	40	34	36	18	18	22	16	11	8	10	70
101 123	467	1669	827	396	219	149	97	64	73	49	47	31	28	21	19	11	14	7	6	64
123 146	70	265	320	258	218	135	101	65	45	52	44	34	21	12	13	16	13	9	5	73
146 168	59	226	264	213	158	134	89	65	50	46	43	33	15	24	14	15	8	14	9	63
168 191	1624	5051	1096	470	254	174	127	89	69	65	42	30	26	14	17	14	10	11	9	74
191 213	2299	15456	6014	1674	659	344	170	103	69	51	30	32	30	14	16	15	15	13	12	59
213 236	1560	9403	5647	2260	1047	519	271	150	111	87	67	30	36	17	16	14	12	10	15	66
236 258	3209	12792	5477	2021	926	523	274	151	128	84	44	36	37	28	22	9	10	11	10	67
258 281	1006	6786	4271	1569	748	388	257	172	99	79	58	49	39	23	20	17	13	8	7	89
281 303	148	1200	1387	782	491	298	194	134	82	61	51	30	30	27	20	13	14	10	4	63
303 326	66	546	746	522	377	244	162	115	71	61	46	28	25	26	22	22	10	10	5	71
326 348	90	1249	1137	557	349	227	161	117	57	60	36	32	25	16	15	11	8	12	7	82

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND WIND DIRECTION(46 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP 46M MINUS TEMP 49M (DEG C)		TURBULENCE INTENSITY RANGE, PERCENT																			
>	=<	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	-0.6	125	4377	8583	3972	1479	636	266	129	68	50	29	21	11	10	12	16	14	9	4	103
-0.8	-0.6	67	5509	7779	2340	627	115	95	41	30	14	10	14	7	4	6	5	3	5	4	45
-0.6	-0.2	1197	20768	22580	6328	2000	622	342	198	125	73	55	24	27	24	18	18	16	9	11	139
-0.2	+0.2	2979	22618	19881	5349	1540	643	262	151	102	59	43	38	28	16	15	14	12	6	10	103
+0.5	+1.4	2979	12056	5380	1590	595	278	161	100	65	48	32	20	22	21	15	19	7	10	11	117
+1.4		1319	4809	1855	779	422	230	158	104	94	57	46	34	26	12	23	20	9	16	12	158

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND DELTA T(T46M-T9M) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP46M MINUS TEMP33M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
-0.8	90	2870	7039	4384	2141	1124	702	458	267	180	117	96	79	63	41	36	18	26	17	166
-0.6	73	4942	7173	2571	939	363	234	120	81	66	51	27	25	22	14	15	18	7	8	61
-0.6	724	23184	19033	5518	2413	1250	752	480	322	215	162	116	91	78	61	46	43	43	33	220
-0.2	1660	27290	15979	4654	2057	978	630	394	251	170	144	98	74	91	42	33	38	19	23	182
+0.5	1580	11122	5044	2112	1119	723	435	310	245	155	117	73	79	63	36	36	32	21	21	206
+1.4	655	3341	1924	1209	740	498	371	244	196	161	134	109	76	81	53	49	29	30	27	266

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND DELTA T(T46M-T9M) AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

TEMP@46M MINUS TEMP@9M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	<-0.5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	321	6624	6288	2329	1012	454	216	109	58	33	19	20	14	10	8	11	4	4	8	70
-0.6	312	6827	4281	1164	323	123	61	42	23	16	18	13	8	5	3	3	3	3	0	28
-0.6	2091	22547	13159	3680	1349	569	283	162	119	77	51	41	33	20	17	16	10	11	10	125
-0.2	4267	22362	10157	2984	1013	441	208	135	113	79	50	43	22	19	14	13	12	11	15	126
+0.5	3387	8831	3274	1096	468	257	145	90	88	46	47	38	29	21	17	19	24	10	13	119
+1.4	1348	2873	1229	557	330	194	137	80	63	37	39	27	18	15	12	9	16	11	11	109

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND DELTA T(T46M-T9M) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP-4M
MINUS
TEMP-9M
(DEG C)

TURBULENCE INTENSITY RANGE, PERCENT

	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	171	4643	5681	2982	1583	907	507	317	200	146	94	65	55	45	32	26	19	18	15
-0.6	256	5824	4425	1369	530	275	175	102	66	42	27	34	17	14	15	9	16	10	7
-0.6	1824	22686	11199	3694	1768	1021	609	372	259	185	142	102	71	58	44	49	43	33	25
-0.2	3506	22469	8535	3252	1566	837	484	357	231	183	122	96	65	55	41	29	34	27	20
+0.5	2427	7798	3232	1572	895	544	358	260	171	134	94	77	64	47	46	32	22	29	21
+1.4	954	2156	1262	808	484	314	247	188	120	91	82	63	43	35	37	21	29	15	17
																			149

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND DELTA T(T46M-T9M) AT LIVINGSTON, MONTANA.
DATA PERIOD SEP.1985 - NOV,1986.

TEMP46M MINUS TEMP9M (DEG C)		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	-0.8	315	5802	5529	2814	1497	873	549	362	197	140	100	85	52	41	31	32	16	16	13	133
-0.6	-0.6	593	7271	4368	1370	517	295	177	85	60	64	37	21	24	21	13	14	5	4	1	68
-0.6	-0.2	3522	24983	10487	3767	1921	1065	663	386	293	212	156	102	83	75	73	46	31	27	28	222
-0.2	+0.5	5973	25772	9425	3653	1851	1054	596	413	278	198	153	113	101	75	41	42	42	44	28	227
+0.5	+1.4	3650	8870	3960	1797	1099	694	460	340	219	179	140	103	87	64	58	45	45	41	25	237
+1.4		1548	2955	1692	955	661	442	333	259	188	173	132	98	91	55	65	36	38	23	24	217

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY 46 METERS) AND DELTA T(T46M-T9M) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

ACROSSWIND TURBULENCE INTENSITY RANGE		ALONGWIND TURBULENCE INTENSITY RANGE, PERCENT																			
(PERCENT)		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0	5	2266	2069	243	89	45	27	12	9	4	1	0	1	1	2	0	2	2	0	1	8
5	10	4404	41743	23357	2792	352	60	18	6	7	2	4	0	1	0	0	0	0	0	0	3
10	15	1268	18112	27704	7330	1367	288	80	25	10	6	1	0	1	0	0	0	0	0	0	1
15	20	484	4838	8259	4667	1541	450	132	45	16	9	3	2	1	1	0	0	0	0	0	0
20	25	141	2354	2967	2182	1101	416	139	70	24	8	1	1	2	1	1	0	1	0	0	0
25	30	32	1182	1367	1138	646	309	147	58	26	15	2	3	1	2	2	0	3	2	1	1
30	35	5	625	872	648	431	258	128	68	44	19	8	5	2	2	2	2	1	2	0	2
35	40	1	263	574	452	306	182	112	49	31	13	9	3	3	1	0	0	5	0	0	2
40	45	2	100	332	321	221	150	84	50	38	30	14	3	4	3	3	1	0	0	1	5
45	50	0	23	190	222	179	127	64	47	32	20	11	12	4	1	0	7	2	0	2	4
50	55	1	10	109	159	136	107	71	47	32	9	14	7	9	2	3	1	1	1	2	5
55	60	0	8	40	113	91	72	66	28	29	18	11	11	8	4	2	4	2	0	3	9
60	65	0	7	23	55	79	66	47	41	31	17	10	11	8	5	4	4	1	3	3	9
65	70	0	2	12	46	70	55	46	41	28	19	17	13	8	7	9	5	2	3	0	15
70	75	0	1	3	19	39	36	32	28	23	15	8	11	4	3	4	2	3	3	1	12
75	80	0	0	3	12	29	33	27	18	17	12	14	8	5	5	5	8	2	1	3	13
80	85	0	0	0	2	22	19	22	17	15	18	10	8	8	9	5	2	0	4	2	15
85	90	0	0	3	5	12	15	20	11	9	12	11	5	6	6	6	3	0	4	1	17
90	95	0	0	1	3	8	15	13	9	9	13	5	7	5	5	6	4	4	6	2	13
95		0	0	1	3	10	20	24	56	59	45	62	40	40	37	39	43	33	27	31	531

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND ACROSSWIND TURBULENCE INTENSITY(9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

ACROSSWIND
TURBULENCE
INTENSITY
RANGE

ALONGWIND TURBULENCE INTENSITY, PERCENT

(PERCENT)	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	4421	4125	396	46	28	26	18	18	13	13	6	7	5	5	5	1	0	1	1	2
<	5934	43485	14137	1625	277	56	19	8	13	13	6	5	2	4	2	1	0	0	0	1
5	893	15405	13640	3423	673	180	66	24	9	9	6	2	2	0	1	0	1	0	0	1
10	15	20	329	3932	5495	2626	843	288	90	35	12	8	4	1	0	0	3	1	0	2
15	20	25	103	1626	2167	1653	751	309	107	53	22	9	4	1	0	0	0	0	0	4
20	25	30	39	825	1079	882	594	257	108	55	19	7	4	5	0	0	1	1	1	2
25	30	35	4	394	567	552	388	207	108	55	19	9	4	1	3	0	2	0	0	6
30	35	40	3	196	393	329	306	164	83	42	29	16	11	3	2	0	0	0	0	3
35	40	45	0	57	231	221	175	137	88	49	35	11	7	6	1	0	1	0	0	5
40	45	50	0	14	144	171	133	102	70	49	33	14	14	5	4	0	2	3	1	0
45	50	55	0	2	57	114	88	71	75	37	32	12	17	10	5	2	1	0	0	3
50	55	60	0	4	33	71	89	77	41	23	31	16	13	5	8	6	1	4	2	5
55	60	65	0	1	15	40	50	51	40	30	23	15	13	5	5	7	2	1	3	5
60	65	70	0	0	4	25	37	31	30	28	25	12	6	7	5	0	3	3	4	8
65	70	75	0	0	7	18	18	22	27	25	23	16	11	8	4	3	5	1	2	7
70	75	80	0	0	8	15	14	18	15	28	11	9	10	6	2	5	5	0	4	10
75	80	85	0	0	2	11	11	15	16	26	15	13	10	5	6	4	4	2	3	17
80	85	90	0	0	1	2	2	7	9	17	10	8	13	8	4	1	7	2	0	16
85	90	95	0	0	0	0	1	3	11	10	8	4	4	2	1	3	8	3	1	19
90	95		0	0	0	1	9	15	20	23	33	26	33	26	24	30	26	39	28	443

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND ACROSSWIND TURBULENCE INTENSITY(30 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

HOUR OF THE DAY		WIND SHEAR RANGE, METERS PER SECOND																									
		>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
00	01	1418	2884	2264	2264	507	64	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01	02	1513	2745	2324	2324	516	64	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02	03	1554	2524	2253	2253	588	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03	04	1378	2711	2184	2184	515	64	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04	05	1366	2531	2247	2247	588	65	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	06	1235	2610	2363	2363	617	42	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06	07	1241	2687	2236	2236	630	60	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07	08	1287	2957	2056	2056	528	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08	09	1136	3655	1764	1764	416	46	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09	10	997	4243	1377	1377	350	33	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	11	898	4547	1276	1276	327	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	12	763	4494	1450	1450	295	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	13	650	4582	1538	1538	264	35	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	14	687	4542	1672	1672	219	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	15	531	4520	1792	1792	238	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	16	552	4576	1802	1802	237	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	17	466	4463	2054	2054	209	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	18	493	4032	2351	2351	334	32	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	19	754	3544	2512	2512	412	34	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	20	890	3027	2763	2763	610	32	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	21	1058	2794	2690	2690	708	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	22	1131	2900	2522	2522	724	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	23	1377	2854	2502	2502	595	45	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	24	1475	2871	2273	2273	555	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP, 1985 - NOV, 1986.

HOUR OF THE DAY	>= <	WIND SHEAR RANGE, METERS PER SECOND																9.0 10.0	9.0 10.0	10.0						
		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0					8.0		9.0		10.0	
		0.0	1.0	0.0	1.0	2.0	3.0	4.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	8.0				9.0	10.0	8.0	9.0	10.0	
00	01	1137	2196	1952	946	946	336	336	77	22	2	0	0	0	0	0	0	0	0	0	0	0	0			
01	02	1231	2107	1946	1012	1012	321	321	114	12	0	0	0	0	0	0	0	0	0	0	0	0	0			
02	03	1171	2037	1843	1013	1013	387	387	86	18	1	0	0	0	0	0	0	0	0	0	0	0	0			
03	04	1119	2119	1765	1047	1047	348	348	128	16	1	0	0	0	0	0	0	0	0	0	0	0	0			
04	05	1156	2007	1712	1099	1099	380	380	116	19	2	0	0	0	0	0	0	0	0	0	0	0	0			
05	06	1125	1885	1849	1144	1144	423	423	99	15	0	0	0	0	0	0	0	0	0	0	0	0	0			
06	07	987	2040	1848	1053	1053	456	456	125	16	1	0	0	0	0	0	0	0	0	0	0	0	0			
07	08	1031	2272	1868	881	881	413	413	89	8	0	0	0	0	0	0	0	0	0	0	0	0	0			
08	09	858	2857	1766	764	764	333	333	69	11	0	0	0	0	0	0	0	0	0	0	0	0	0			
09	10	844	3333	1526	608	608	282	282	76	7	1	0	0	0	0	0	0	0	0	0	0	0	0			
10	11	810	3551	1538	576	576	251	251	43	5	0	0	0	0	0	0	0	0	0	0	0	0	0			
11	12	668	3615	1679	485	485	220	220	45	2	0	0	0	0	0	0	0	0	0	0	0	0	0			
12	13	688	3569	1763	512	512	204	204	51	6	0	0	0	0	0	0	0	0	0	0	0	0	0			
13	14	648	3558	1928	556	556	171	171	34	1	0	0	0	0	0	0	0	0	0	0	0	0	0			
14	15	587	3497	2007	579	579	188	188	25	1	0	0	0	0	0	0	0	0	0	0	0	0	0			
15	16	526	3503	2147	540	540	159	159	24	2	0	0	0	0	0	0	0	0	0	0	0	0	0			
16	17	443	3237	2439	579	579	162	162	34	6	4	0	0	0	0	0	0	0	0	0	0	0	0			
17	18	456	2994	2409	606	606	218	218	52	7	11	0	0	0	0	0	0	0	0	0	0	0	0			
18	19	672	2599	2405	930	930	290	290	48	3	3	6	0	0	0	0	0	0	0	0	0	0	0			
19	20	801	2226	2257	1266	1266	364	364	54	7	0	0	0	0	0	0	0	0	0	0	0	0	0			
20	21	955	2010	2157	1342	1342	384	384	79	12	0	0	0	0	0	0	0	0	0	0	0	0	0			
21	22	914	2211	2071	1186	1186	465	465	99	4	2	0	0	0	0	0	0	0	0	0	0	0	0			
22	23	1120	2067	2150	1072	1072	417	417	69	19	2	0	0	0	0	0	0	0	0	0	0	0	0			
23	24	1148	2273	2022	927	927	358	358	103	10	0	0	0	0	0	0	0	0	0	0	0	0	0			

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

		WIND SHEAR RANGE, METERS PER SECOND																									
DAY	OF THE	>=		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0			
		<	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	<	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
00	01			1336	4536	462	22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01	02			1310	4578	495	25	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02	03			1153	4517	492	31	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03	04			1179	4415	505	26	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04	05			1256	4305	481	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05	06			1224	4478	495	14	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06	07			1113	4454	575	20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07	08			1101	4588	500	26	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08	09			1285	4652	404	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09	10			1497	4482	327	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	11			1624	4544	244	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	12			1545	4523	260	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	13			1622	4552	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	14			1621	4641	217	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	15			1609	4620	212	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	16			1481	4823	188	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	17			1379	4954	181	10	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	18			1306	4975	253	18	12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	19			1244	5012	327	9	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	20			1318	4883	433	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	21			1405	4763	468	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	22			1320	4720	582	28	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	23			1230	4862	498	29	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	24			1288	4645	535	24	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE		WIND SHEAR RANGE. METERS PER SECOND																		
>=	<	0.0	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0							
		0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0								
0.0	0.0	6929	3589	318	55	15	1	1	0	0	0	0	0							
0.0	1.0	15337	23972	3180	467	73	6	2	0	0	0	0	0							
0.0	2.0	1829	20817	6877	531	34	1	0	0	0	0	0	0							
0.0	3.0	466	17964	11501	866	23	1	0	0	0	0	0	0							
0.0	4.0	177	10988	11678	1514	40	0	0	0	0	0	0	0							
0.0	5.0	80	4329	8658	1933	57	0	0	0	0	0	0	0							
0.0	6.0	22	1147	4457	1620	83	2	0	0	0	0	0	0							
0.0	7.0	7	325	2099	1250	91	1	0	0	0	0	0	0							
0.0	8.0	3	130	1001	1160	122	1	0	0	0	0	0	0							
0.0	9.0	0	29	395	857	163	2	0	0	0	0	0	0							
0.0	10.0	0	3	88	510	160	4	0	0	0	0	0	0							
0.0	11.0	0	0	10	182	93	3	0	0	0	0	0	0							
0.0	12.0	0	0	3	34	28	3	0	0	0	0	0	0							
0.0	13.0	0	0	0	3	8	1	0	0	0	0	0	0							
0.0	14.0	0	0	0	0	1	0	0	0	0	0	0	0							
0.0	15.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	16.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	17.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	18.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	19.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	20.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	21.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	22.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	23.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	24.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	25.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	26.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	27.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	28.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	29.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	30.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	31.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	32.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	33.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	34.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	35.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	36.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	37.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	38.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	39.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	40.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	41.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	42.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	43.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	44.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	45.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	46.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	47.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	48.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	49.0	0	0	0	0	0	0	0	0	0	0	0	0							
0.0	50.0	0	0	0	0	0	0	0	0	0	0	0	0							

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND WIND SPEED(9 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)		WIND SHEAR RANGE, METERS PER SECOND																	
		>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0	
		>		<=		0.0		1.0		2.0		3.0		4.0		5.0		6.0	
0.0	2.0	2815	6924	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0	4.0	11049	20128	604	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.0	6.0	6478	14758	523	101	32	2	0	0	0	0	0	0	0	0	0	0	0	0
6.0	8.0	5303	17973	515	44	9	1	0	0	0	0	0	0	0	0	0	0	0	0
8.0	10.0	3673	18610	677	44	12	2	0	0	0	0	0	0	0	0	0	0	0	0
10.0	12.0	1897	14034	805	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0
12.0	14.0	933	8948	1017	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0
14.0	16.0	173	4647	1106	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16.0	18.0	53	2541	1142	20	2	0	0	0	0	0	0	0	0	0	0	0	0	0
18.0	20.0	41	1411	928	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20.0	22.0	28	842	788	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22.0	24.0	1	396	617	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24.0	26.0	2	210	396	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26.0	28.0	0	93	184	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.0	30.0	0	7	58	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30.0	32.0	0	0	14	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32.0	34.0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34.0	36.0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36.0	38.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38.0	40.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.0	42.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42.0	44.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44.0	46.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46.0	48.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48.0	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND WIND SPEED(46 METERS) AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION		WIND SHEAR RANGE, METERS PER SECOND																											
RANGE (DEGREES)		>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0			
>=		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0		10.0		10.0			
348	11	1605	2941	318	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11	33	1481	1975	133	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
33	56	1930	3021	284	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
56	78	2253	8675	3114	98	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
78	101	2719	9979	4884	408	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
101	123	1643	2593	1133	122	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
123	146	1861	1407	386	59	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
146	168	1549	1003	159	47	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
168	191	1428	2439	2805	2021	231	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
191	213	1544	8089	11073	5490	607	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
213	236	1641	10922	8694	1476	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
236	258	1104	13231	8906	743	22	1	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
258	281	852	8490	5847	291	19	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
281	303	774	3607	1373	96	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
303	326	1167	2475	335	15	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
326	348	1299	2446	821	96	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND WIND DIRECTION(9 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

WIND DIRECTION RANGE (DEGREES)	>= <	WIND SHEAR RANGE, METERS PER SECOND																	
		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0	
		0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
348	11	983	2186	489	43	4	0	0	0	0	0	0	0	0	0	0	0	0	0
11	33	976	1730	189	11	3	0	0	0	0	0	0	0	0	0	0	0	0	0
33	56	1380	2861	441	25	5	0	0	0	0	0	0	0	0	0	0	0	0	0
56	78	1728	7190	4121	544	16	1	0	0	0	0	0	0	0	0	0	0	0	0
78	101	2395	5752	3722	989	139	11	0	0	0	0	0	0	0	0	0	0	0	0
101	123	1198	1475	657	220	20	2	0	0	0	0	0	0	0	0	0	0	0	0
123	146	624	801	242	59	10	0	0	0	0	0	0	0	0	0	0	0	0	0
146	168	649	683	142	40	14	5	0	0	0	0	0	0	0	0	0	0	0	0
168	191	852	1760	1968	2648	2010	709	102	6	0	0	0	0	0	0	0	0	0	0
191	213	1173	4693	5572	4496	1919	415	47	3	0	0	0	0	0	0	0	0	0	0
213	236	1243	5814	5887	2835	518	45	5	0	0	0	0	0	0	0	0	0	0	0
236	258	1076	7291	7689	2446	216	23	9	14	6	0	0	0	0	0	0	0	0	0
258	281	813	5180	4755	1231	79	1	6	4	0	0	0	0	0	0	0	0	0	0
281	303	725	2479	972	166	29	5	1	0	0	0	0	0	0	0	0	0	0	0
303	326	753	1758	451	69	2	0	0	0	0	0	0	0	0	0	0	0	0	0
326	348	733	1889	993	277	32	1	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND WIND DIRECTION(30 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)		WIND SHEAR RANGE, METERS PER SECOND																								
>=	<	>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0												
348	11	1068	2886	26	4	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	33	1006	2216	12	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	56	1686	3090	29	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	78	3759	10082	68	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	101	5787	9618	446	24	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
101	123	2042	1978	84	11	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
123	146	569	1081	55	11	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
146	168	497	925	54	16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
168	191	974	6001	1688	52	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
191	213	3037	17108	4581	148	9	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
213	236	3273	15178	1104	29	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
236	258	3553	20413	738	35	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
258	281	2488	11943	355	11	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
281	303	1131	3577	63	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
303	326	779	2228	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
326	348	797	3197	48	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND WIND DIRECTION(46 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED (M/S)		WIND SHEAR RANGE, METERS PER SECOND										
>	<	1	2	3	4	5	6	7	8	9	10	11
1.0	2.0	18496	1	0	0	0	0	0	0	0	0	0
2.0	3.0	2706	1134	0	0	0	0	0	0	0	0	0
3.0	4.0	710	8706	130	0	0	0	0	0	0	0	0
4.0	5.0	58	13973	15350	858	18	0	0	0	0	0	0
5.0	6.0	23	4324	13364	1716	45	0	0	0	0	0	0
6.0	7.0	23	1153	7261	2640	71	0	0	0	0	0	0
7.0	8.0	301	2930	2460	107	0	0	0	0	0	0	0
8.0	9.0	85	1082	1679	190	1	0	0	0	0	0	0
9.0	10.0	31	300	898	212	0	0	0	0	0	0	0
10.0	11.0	93	380	174	0	0	0	0	0	0	0	0
11.0	12.0	26	141	102	0	0	0	0	0	0	0	0
12.0	13.0	10	49	41	0	0	0	0	0	0	0	0
13.0	14.0	4	14	17	0	0	0	0	0	0	0	0
14.0	15.0	2	11	10	0	0	0	0	0	0	0	0
15.0	16.0	0	3	3	0	0	0	0	0	0	0	0

JOINT FREQUENCY DISTRIBUTION OF AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND MAXIMUM INSTANTANEOUS WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

MAXIMUM WIND SHEAR (M/S)	WIND SHEAR RANGE, METERS PER SECOND																	
	>	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	10.0	9.0	8.0	7.0	6.0
>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	10.0	9.0	8.0	7.0	6.0	5.0
0.0	1.0	14880	7506	426	87	16	0	0	0	0	0	0	0	0	0	0	0	0
1.0	2.0	4502	20361	622	32	6	0	0	0	0	0	0	0	0	0	0	0	0
2.0	3.0	2609	22239	4325	61	2	0	0	0	0	0	0	0	0	0	0	0	0
3.0	4.0	2422	15137	10349	376	11	0	0	0	0	0	0	0	0	0	0	0	0
4.0	5.0	1242	6199	11941	824	10	0	0	0	0	0	0	0	0	0	0	0	0
5.0	6.0	809	2181	8729	1475	29	0	0	0	0	0	0	0	0	0	0	0	0
6.0	7.0	544	749	4762	2035	67	1	0	0	0	0	0	0	0	0	0	0	0
7.0	8.0	577	260	2355	2030	93	2	0	0	0	0	0	0	0	0	0	0	0
8.0	9.0	433	98	1061	1484	129	4	3	2	0	0	0	0	0	0	0	0	0
9.0	10.0	200	34	427	972	196	2	0	0	0	0	0	0	0	0	0	0	0
10.0	11.0	101	16	175	515	172	2	0	0	0	0	0	0	0	0	0	0	0
11.0	12.0	28	2	58	262	117	1	0	0	0	0	0	0	0	0	0	0	0
12.0	13.0	13	1	25	118	81	8	0	0	0	0	0	0	0	0	0	0	0
13.0	14.0	3	1	12	44	38	2	0	0	0	0	0	0	0	0	0	0	0
14.0	15.0	1	0	1	18	9	1	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY DISTRIBUTION OF AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND MAXIMUM INSTANTANEOUS WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

MAXIMUM WIND SHEAR (M/S)		WIND SHEAR RANGE, METERS PER SECOND																			
>	=<	>=	<	0.0	1.0	2.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	8.0	9.0	10.0		
0.0	1.0	15898	20344	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1.0	2.0	10777	37186	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
2.0	3.0	3603	30322	912	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3.0	4.0	972	15606	2253	122	28	0	0	0	0	0	0	0	0	0	0	0	0	0		
4.0	5.0	209	5646	2592	57	14	2	0	0	0	0	0	0	0	0	0	0	0	0		
5.0	6.0	48	1712	1854	47	8	1	0	0	0	0	0	0	0	0	0	0	0	0		
6.0	7.0	14	485	933	37	2	0	0	0	0	0	0	0	0	0	0	0	0	0		
7.0	8.0	2	124	390	33	1	1	0	0	0	0	0	0	0	0	0	0	0	0		
8.0	9.0	5	47	159	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9.0	10.0	0	20	56	9	1	1	1	1	1	1	1	0	0	0	0	0	0	0		
10.0	11.0	1	10	22	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11.0	12.0	0	5	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12.0	13.0	0	4	10	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0		
13.0	14.0	0	3	2	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0		
14.0	15.0	0	4	4	4	4	4	4	4	4	4	4	1	1	1	1	1	1	1		

JOINT FREQUENCY DISTRIBUTION OF AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS AND MAXIMUM INSTANTANEOUS WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND
SPEED
WIND
DIRECTION

TURBULENCE INTENSITY RANGE, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0	2032	7201	3806	1698	842	458	263	165	169	109	81	75	45	36	30	19	22	20	14	21
1	4085	24466	14860	5262	2145	973	498	294	170	109	87	80	57	36	31	34	37	24	31	262
2	3093	20371	10704	2524	829	323	146	83	65	35	22	12	9	6	7	10	3	4	2	4
3	1235	9016	4289	1012	286	120	48	24	22	13	11	6	1	4	1	1	1	0	3	6
4	180	2689	1499	444	116	32	27	7	7	2	5	1	1	2	0	1	0	0	0	0
5	25	612	399	115	35	14	6	7	1	2	0	0	0	1	0	0	0	0	0	0
6	1	59	69	24	9	1	4	2	0	0	1	0	0	0	0	0	0	0	0	0
7	2	14	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND
WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

TABLE E1-40

WIND
SHEAR
FREQ
M/S

TURBULENCE INTENSITY INDEX

	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0	1659	1114	711	519	338	267	196	131	111	112	92	67	56	49	39	334
1	3387	1894	1169	778	528	369	264	219	146	112	86	72	85	60	50	411
2	951	462	236	137	88	63	44	42	24	13	14	12	13	10	9	38
3	275	131	86	42	26	24	12	4	4	5	2	2	1	1	2	7
4	79	44	26	13	5	5	2	1	2	0	1	0	1	0	0	1
5	25	16	6	2	3	0	0	0	1	0	0	0	0	0	0	0
6	4	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

JOINT FREQUENCY COUNT OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND
WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.

NOV, 1986.

Section 2

Joint Frequency Distribution Arrays

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HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																		
		<	0-10	10-20	20-30	30-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95		
00	01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
01	02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
02	03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
03	04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
04	05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
05	06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
06	07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
07	08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
08	09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
09	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
10	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
11	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
12	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
13	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02		
14	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
15	16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01		
16	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17	18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
21	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
23	24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY (9 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP, 1985 - NOV, 1986.

TURBULENCE INTENSITY RANGE, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0.58	2.00	0.96	0.30	0.13	0.13	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.58	2.06	0.95	0.33	0.12	0.12	0.05	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.50	2.09	0.92	0.26	0.11	0.11	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
0.52	1.97	0.91	0.29	0.12	0.12	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.02
0.49	1.96	0.89	0.32	0.13	0.13	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03
0.48	1.95	0.94	0.32	0.14	0.14	0.08	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
0.35	2.01	0.98	0.32	0.13	0.13	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03
0.26	2.03	1.09	0.31	0.11	0.11	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.20	2.08	1.21	0.36	0.12	0.12	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.13	1.98	1.29	0.40	0.15	0.15	0.07	0.03	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.11	1.91	1.33	0.49	0.18	0.18	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
0.12	1.82	1.37	0.46	0.17	0.17	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.11	1.77	1.42	0.49	0.17	0.17	0.08	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.10	1.80	1.44	0.44	0.17	0.17	0.08	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.09	1.88	1.34	0.44	0.18	0.18	0.08	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.12	1.95	1.38	0.40	0.16	0.16	0.07	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.19	2.14	1.27	0.36	0.13	0.13	0.06	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.26	2.34	1.14	0.30	0.11	0.11	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.37	2.43	1.02	0.28	0.09	0.09	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.54	2.34	0.96	0.25	0.10	0.10	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
0.58	2.27	0.97	0.27	0.10	0.10	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.58	2.17	1.03	0.29	0.10	0.10	0.05	0.02	0.01	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.46	2.20	1.09	0.28	0.12	0.12	0.05	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
0.51	2.05	1.02	0.31	0.12	0.12	0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP, 1985 - NOV, 1986.

NO. OF THE DAY		TWO-DAY INTENSITY RANGE, PERCENT																	
>=	<	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95	
00	01	0.33	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
01	02	0.36	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
02	03	0.28	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
03	04	0.29	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
04	05	0.31	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
05	06	0.31	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
06	07	0.31	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
07	08	0.31	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
08	09	0.28	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
09	10	0.19	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
10	11	0.42	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
11	12	0.42	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
12	13	0.38	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
13	14	0.38	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
14	15	0.39	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
15	16	0.36	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
16	17	0.31	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
17	18	0.27	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
18	19	0.31	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
19	20	0.28	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
20	21	0.62	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
21	22	0.62	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
22	23	0.55	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	
23	24	0.57	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	<	TURBULENCE INTENSITY RANGE, PERCENT																	>95		
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85		85-90	90-95
00	01	0.21	1.84	1.12	0.39	0.19	0.11	0.08	0.06	0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
01	02	0.17	1.30	1.13	0.42	0.22	0.11	0.08	0.05	0.03	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
02	03	0.16	1.74	1.06	0.42	0.22	0.13	0.08	0.05	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.04
03	04	0.17	1.75	1.08	0.42	0.21	0.12	0.07	0.05	0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03
04	05	0.16	1.73	1.10	0.40	0.23	0.13	0.07	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03
05	06	0.17	1.82	1.12	0.39	0.19	0.11	0.07	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.03
06	07	0.11	1.76	1.16	0.43	0.20	0.12	0.09	0.04	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03
07	08	0.09	1.63	1.24	0.42	0.24	0.13	0.08	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.02
08	09	0.03	1.57	1.31	0.49	0.25	0.13	0.10	0.06	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.02
09	10	0.03	1.37	1.43	0.54	0.26	0.13	0.09	0.06	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03
10	11	0.02	1.27	1.41	0.60	0.29	0.17	0.10	0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
11	12	0.03	1.22	1.46	0.66	0.28	0.16	0.09	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
12	13	0.03	1.15	1.54	0.69	0.32	0.15	0.09	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
13	14	0.03	1.15	1.59	0.75	0.29	0.13	0.08	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
14	15	0.04	1.17	1.70	0.70	0.25	0.11	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
15	16	0.03	1.34	1.70	0.61	0.24	0.11	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01
16	17	0.05	1.55	1.65	0.54	0.21	0.08	0.04	0.03	0.02	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01
17	18	0.11	1.90	1.49	0.39	0.16	0.06	0.04	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
18	19	0.15	2.17	1.27	0.35	0.13	0.06	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
19	20	0.19	2.27	1.14	0.29	0.14	0.07	0.05	0.02	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
20	21	0.21	2.17	1.11	0.31	0.14	0.10	0.04	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
21	22	0.19	2.11	1.11	0.36	0.17	0.09	0.06	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03
22	23	0.13	2.02	1.11	0.39	0.19	0.12	0.07	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.03
23	24	0.14	1.89	1.17	0.40	0.19	0.12	0.08	0.05	0.04	0.02	0.02	0.02	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.04

(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP, 1985 - NOV, 1986.

OF THE		TURBULENCE INTENSITY RANGE, PERCENT																	
DAY	<	0-5	10-15	15-20	20-25	25-30	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
00	01	0.44	0.68	0.36	0.23	0.14	0.06	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.03
01	02	0.40	0.87	0.41	0.23	0.14	0.05	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.02
02	03	0.36	0.84	0.38	0.21	0.11	0.05	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01
03	04	0.36	0.82	0.38	0.21	0.11	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.00	0.04
04	05	0.36	0.83	0.39	0.21	0.11	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.03
05	06	0.36	0.83	0.39	0.21	0.11	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.04
06	07	0.28	0.89	0.36	0.21	0.11	0.06	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
07	08	0.24	0.88	0.37	0.21	0.15	0.06	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
08	09	0.24	0.97	0.41	0.21	0.14	0.06	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.02
09	10	0.24	0.97	0.41	0.21	0.14	0.06	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03
10	11	0.24	1.17	0.50	0.29	0.16	0.06	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.03
11	12	0.24	1.17	0.50	0.29	0.16	0.06	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.03
12	13	0.24	1.15	0.50	0.26	0.15	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
13	14	0.10	1.15	0.50	0.26	0.15	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
14	15	0.10	1.34	0.52	0.23	0.11	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
15	16	0.10	1.34	0.52	0.23	0.11	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02
16	17	0.10	1.29	0.41	0.19	0.10	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.02
17	18	0.10	1.29	0.41	0.19	0.10	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.02
18	19	0.10	0.97	0.30	0.13	0.06	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
19	20	0.10	0.97	0.30	0.13	0.06	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
20	21	0.10	0.84	0.28	0.14	0.07	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
21	22	0.10	0.78	0.27	0.15	0.09	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01
22	23	0.10	0.85	0.29	0.12	0.11	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.01
23	24	0.10	0.85	0.29	0.12	0.11	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.02
24	25	0.10	0.90	0.39	0.21	0.16	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.03

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP,1985 - NOV,1986.

OF THE DAY		TURBULENCE INTENSITY (%)																	PERCENT	
		10-15	15-20	30-35	35-40	40-45	45-50	50-55	55-60	60-65	70-75	75-80	80-85	85-90	90-95	>=95				
00	01	0.79	0.35	0.07	0.04	0.04	0.03	0.03	0.02	0.02	0.00	0.01	0.00	0.00	0.00	0.03				
01	02	0.01	0.01	0.09	0.05	0.04	0.02	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.02				
02	03	0.83	0.35	0.08	0.05	0.03	0.04	0.02	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.03				
03	04			0.08	0.07	0.03	0.03	0.03	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.03				
04	05	0.77	0.36	0.07	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.03				
05	06			0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.03				
06	07			0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.03				
07	08			0.10	0.06	0.04	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.03				
08	09	0.86	0.36	0.11	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.03				
09	10	1.03	0.38	0.09	0.06	0.04	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.03				
10	11	1.01	0.45	0.08	0.05	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
11	12	1.11	0.45	0.08	0.05	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
12	13			0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
13	14			0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
14	15			0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02				
15	16			0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
16	17	1.09	0.32	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
17	18	0.91	0.27	0.03	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02				
18	19	0.84	0.28	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
19	20	0.74	0.28	0.05	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02				
20	21	0.75	0.27	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
21	22	0.80	0.28	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
22	23	0.72	0.37	0.08	0.06	0.03	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.02				
23	24	0.80	0.39	0.08	0.06	0.04	0.04	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01				

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND TIME OF DAY AT LIVINGSTON, MONTANA.
(PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-6

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																		>=
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	
0.0	1.18	3.87	0.73	0.24	0.13	0.06	0.05	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00
2.0	2.09	9.09	6.11	3.11	1.60	0.87	0.47	0.28	0.21	0.13	0.10	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.04
4.0	1.09	7.05	5.89	2.20	0.77	0.30	0.13	0.06	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	0.31	7.22	7.68	2.09	0.52	0.12	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	0.07	5.54	6.60	1.59	0.34	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.02	3.30	4.49	0.93	0.17	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.00	1.64	2.21	0.48	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.00	0.76	1.25	0.29	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	0.00	0.56	0.93	0.16	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	0.00	0.35	0.48	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.00	0.15	0.23	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	0.00	0.06	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND WIND SPEED(9 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>																				
<=																				
0.0 2.0	0.30	1.22	1.28	1.01	0.74	0.50	0.35	0.25	0.18	0.13	0.10	0.07	0.05	0.03	0.03	0.03	0.02	0.01	0.01	0.08
2.0 4.0	1.25	5.86	5.58	3.70	2.39	1.54	1.06	0.73	0.51	0.36	0.28	0.20	0.17	0.16	0.10	0.09	0.08	0.06	0.06	0.53
4.0 6.0	0.73	7.35	5.49	2.25	0.96	0.36	0.21	0.09	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01
6.0 8.0	0.26	8.19	6.75	1.96	0.56	0.17	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0 10.0	0.07	6.79	5.63	1.31	0.31	0.09	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0 12.0	0.03	4.67	3.41	0.65	0.15	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0 14.0	0.01	2.55	1.52	0.28	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0 16.0	0.00	1.42	0.78	0.12	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0 18.0	0.00	1.12	0.49	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0 20.0	0.00	0.71	0.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0 22.0	0.00	0.36	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0 24.0	0.00	0.14	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0 26.0	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0 28.0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0 30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0 32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0 34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0 36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0 38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0 40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0 42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0 44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0 46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0 48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0 50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND WIND SPEED(9 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN CORRESPONDING WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-6

WIND SPEED RANGE M/S		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>	<=	1.34	4.54	1.59	0.67	0.33	0.19	0.12	0.08	0.07	0.05	0.03	0.04	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.17
2.0	4.0	1.61	5.92	4.80	2.78	1.49	0.79	0.45	0.27	0.21	0.13	0.11	0.08	0.06	0.04	0.04	0.03	0.03	0.02	0.23	
4.0	6.0	1.55	6.59	4.24	1.57	0.60	0.25	0.11	0.07	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6.0	8.0	1.55	8.55	4.67	1.08	0.31	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8.0	10.0	1.12	8.60	4.37	0.85	0.19	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10.0	12.0	0.61	6.37	3.07	0.57	0.10	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12.0	14.0	0.25	4.00	1.84	0.33	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14.0	16.0	0.10	1.99	0.98	0.20	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16.0	18.0	0.03	1.14	0.62	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18.0	20.0	0.02	0.72	0.38	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20.0	22.0	0.03	0.48	0.21	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22.0	24.0	0.01	0.23	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24.0	26.0	0.00	0.12	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
26.0	28.0	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
28.0	30.0	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30.0	32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
32.0	34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
34.0	36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
36.0	38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
38.0	40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
40.0	42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
42.0	44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
44.0	46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
46.0	48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
48.0	50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND WIND SPEED(30 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN CORRESPONDING WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-9

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0.0 2.0	0.36	1.35	1.64	1.43	1.09	0.85	0.58	0.47	0.30	0.24	0.17	0.14	0.10	0.09	0.07	0.06	0.05	0.04	0.04	0.26
2.0 4.0	1.01	4.49	4.28	3.01	1.97	1.18	0.80	0.50	0.36	0.26	0.20	0.16	0.11	0.09	0.08	0.05	0.06	0.04	0.04	0.33
4.0 6.0	1.18	6.10	4.27	1.90	0.78	0.39	0.18	0.10	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
6.0 8.0	1.35	8.51	4.46	1.33	0.44	0.16	0.05	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0 10.0	1.06	8.85	3.99	0.93	0.23	0.07	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0 12.0	0.63	6.70	2.71	0.52	0.13	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0 14.0	0.33	4.40	1.40	0.26	0.08	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0 16.0	0.16	2.25	0.69	0.14	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0 18.0	0.11	1.35	0.40	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0 20.0	0.07	0.82	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0 22.0	0.07	0.62	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0 24.0	0.05	0.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0 26.0	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0 28.0	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0 30.0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0 32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0 34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0 36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0 38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0 40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0 42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0 44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0 46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0 48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0 50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND WIND SPEED(30 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN CORRESPONDING WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-10

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
<=																				
0.0 2.0	1.00	3.48	0.92	0.34	0.17	0.09	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.07
2.0 4.0	1.87	6.39	4.79	2.87	1.43	0.80	0.45	0.32	0.22	0.18	0.12	0.09	0.06	0.06	0.05	0.05	0.03	0.03	0.03	0.33
4.0 6.0	1.58	5.75	3.85	1.68	0.64	0.26	0.12	0.06	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
6.0 8.0	1.86	7.91	4.09	1.17	0.36	0.09	0.04	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0 10.0	1.65	8.40	3.73	0.83	0.19	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0 12.0	1.04	6.61	2.65	0.48	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0 14.0	0.64	4.64	1.63	0.29	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0 16.0	0.35	2.54	0.88	0.16	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0 18.0	0.16	1.58	0.63	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0 20.0	0.10	1.17	0.41	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0 22.0	0.08	0.93	0.24	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0 24.0	0.06	0.47	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0 26.0	0.03	0.29	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0 28.0	0.01	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0 30.0	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0 32.0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0 34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0 36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0 38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0 40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0 42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0 44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0 46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0 48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0 50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND WIND SPEED(46 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN CORRESPONDING WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>	<=	0.28	1.00	1.12	0.94	0.75	0.57	0.40	0.29	0.20	0.17	0.12	0.09	0.06	0.06	0.04	0.02	0.02	0.02	0.02	0.14
2.0	4.0	1.15	4.31	4.02	2.94	2.11	1.39	0.98	0.67	0.47	0.36	0.29	0.21	0.19	0.14	0.12	0.10	0.08	0.07	0.06	0.51
4.0	6.0	1.33	5.50	3.78	1.77	0.75	0.39	0.20	0.11	0.05	0.05	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.02
6.0	8.0	1.83	7.84	3.95	1.22	0.44	0.16	0.07	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	10.0	1.67	8.44	3.47	0.89	0.28	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	12.0	1.06	6.74	2.40	0.51	0.13	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	14.0	0.82	4.74	1.36	0.23	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	16.0	0.45	2.66	0.68	0.13	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	18.0	0.30	1.66	0.45	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	20.0	0.21	1.27	0.24	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	22.0	0.16	1.01	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	24.0	0.14	0.52	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	26.0	0.06	0.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	28.0	0.04	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	30.0	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	32.0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0	40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0	44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0	46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0	48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0	50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND WIND SPEED(46 METERS)
 AT LIVINGSTON, MONTANA.
 VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE CORRESPONDING WIND SPEED AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-12

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
348	1.14	1.05	0.82	0.40	0.19	0.09	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
11	0.14	0.80	0.52	0.25	0.12	0.08	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
33	0.25	1.22	0.76	0.33	0.17	0.09	0.05	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
56	0.49	3.87	2.94	0.67	0.22	0.09	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
78	0.37	4.27	4.66	1.05	0.24	0.09	0.04	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
101	0.25	1.52	0.90	0.26	0.08	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
123	0.37	1.05	0.40	0.15	0.07	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
146	0.27	0.73	0.28	0.14	0.08	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
168	0.35	2.13	1.82	0.53	0.19	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
191	0.42	5.94	7.00	1.82	0.43	0.13	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
213	0.72	5.57	5.02	1.41	0.43	0.18	0.08	0.04	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
236	0.53	6.68	4.69	1.21	0.41	0.16	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
258	0.17	2.48	4.04	1.53	0.43	0.15	0.07	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
281	0.08	0.75	1.30	0.73	0.27	0.10	0.05	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
303	0.11	0.77	0.62	0.35	0.19	0.09	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
326	0.11	0.79	0.91	0.42	0.19	0.08	0.05	0.03	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
348	0.11	0.79	0.91	0.42	0.19	0.08	0.05	0.03	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND WIND DIRECTION(9 METERS)
 AT LIVINGSTON, MONTANA.
 (VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)
 DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=																				
<																				
348	0.09	0.82	0.72	0.41	0.23	0.16	0.10	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.04
11	0.04	0.37	0.46	0.37	0.24	0.17	0.11	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.04
33	0.12	0.73	0.79	0.49	0.27	0.18	0.11	0.07	0.04	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
56	0.27	3.58	2.77	0.82	0.38	0.19	0.12	0.08	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.04
78	0.36	6.20	2.92	0.55	0.25	0.14	0.09	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.03
101	0.23	1.43	0.67	0.27	0.16	0.09	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.04
123	0.24	0.76	0.46	0.24	0.13	0.09	0.07	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.05
146	0.18	0.43	0.37	0.22	0.13	0.10	0.07	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.04
168	0.20	2.85	1.18	0.36	0.19	0.11	0.08	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.03
191	0.22	5.33	5.17	1.24	0.43	0.17	0.11	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
213	0.32	5.42	4.72	1.63	0.69	0.30	0.15	0.09	0.06	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.03
236	0.27	6.41	4.48	1.40	0.56	0.27	0.15	0.09	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.04
258	0.07	2.12	3.80	1.60	0.62	0.24	0.17	0.09	0.06	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.04
281	0.02	0.33	1.21	0.80	0.38	0.19	0.13	0.08	0.06	0.03	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.05
303	0.04	0.32	0.57	0.44	0.29	0.17	0.12	0.08	0.05	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.03
326	0.02	0.33	0.92	0.53	0.29	0.17	0.10	0.08	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
348																				

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND WIND DIRECTION(9 METERS)
 AT LIVINGSTON, MONTANA.
 (VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)
 DATA PERIOD SEP.1985 - NOV.1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																					
	>=	<	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	11	0.20	0.99	0.71	0.38	0.22	0.11	0.05	0.03	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
11	33	0.19	0.88	0.53	0.26	0.13	0.07	0.05	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
33	56	0.40	1.52	0.82	0.37	0.17	0.09	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
56	78	0.77	5.78	2.35	0.52	0.23	0.10	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
78	101	0.47	4.82	3.44	0.77	0.22	0.08	0.05	0.03	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
101	123	0.20	1.17	0.74	0.27	0.08	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
123	146	0.17	0.47	0.27	0.13	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
146	168	0.12	0.45	0.24	0.13	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
168	191	0.65	4.22	1.92	0.55	0.17	0.08	0.03	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
191	213	0.89	7.74	4.04	1.06	0.32	0.12	0.06	0.03	0.03	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
213	234	1.49	6.43	3.11	0.93	0.31	0.14	0.05	0.03	0.03	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.03
234	258	1.83	7.39	3.71	0.95	0.30	0.14	0.07	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
258	281	0.46	4.39	2.95	0.83	0.30	0.11	0.06	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
281	303	0.15	1.17	1.01	0.43	0.20	0.10	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
303	326	0.13	0.73	0.66	0.34	0.17	0.07	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
326	348	0.12	1.07	0.94	0.39	0.19	0.09	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND WIND DIRECTION(30 METERS)
 AT LIVINGSTON, MONTANA.
 (VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)
 DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																					
	>=	<	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	11		0.12	0.81	0.67	0.42	0.25	0.16	0.09	0.06	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
11	33		0.10	0.47	0.50	0.35	0.26	0.15	0.10	0.07	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
33	56		0.18	1.06	0.85	0.51	0.30	0.18	0.12	0.08	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.04	0.04
56	78		0.42	5.02	2.68	0.82	0.36	0.20	0.12	0.09	0.04	0.03	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.05	0.05
78	101		0.97	6.11	1.64	0.47	0.24	0.15	0.09	0.06	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.01	0.04
101	123		0.19	1.10	0.56	0.27	0.15	0.10	0.06	0.05	0.02	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.02	0.02
123	146		0.06	0.27	0.28	0.18	0.13	0.08	0.06	0.05	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.04
146	168		0.05	0.23	0.25	0.18	0.12	0.08	0.06	0.04	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.04	0.04
168	191		0.73	4.98	1.05	0.37	0.19	0.11	0.07	0.05	0.03	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.03
191	213		0.71	7.84	3.69	1.14	0.45	0.18	0.11	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04
213	236		0.99	5.54	3.35	1.30	0.59	0.31	0.16	0.09	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.03	0.03
236	258		1.37	6.84	3.36	1.17	0.49	0.27	0.15	0.10	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.04	0.04
258	281		0.35	3.78	2.82	1.09	0.46	0.23	0.15	0.09	0.06	0.04	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.04	0.04
281	303		0.08	0.72	0.95	0.53	0.30	0.20	0.12	0.09	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.05	0.05
303	326		0.05	0.40	0.54	0.39	0.26	0.18	0.12	0.09	0.05	0.04	0.03	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.05
326	348		0.06	0.86	0.90	0.41	0.24	0.15	0.09	0.06	0.04	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.02

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND WIND DIRECTION(30 METERS)
 AT LIVINGSTON, MONTANA.
 (VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)
 DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	11	0.22	0.99	0.62	0.31	0.17	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
11	33	0.22	0.83	0.46	0.23	0.12	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
33	56	0.39	1.32	0.64	0.31	0.13	0.07	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03
56	78	0.97	5.55	1.89	0.45	0.16	0.09	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
78	101	0.41	4.97	3.20	1.18	0.38	0.09	0.05	0.02	0.02	0.01	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.02
101	123	0.10	0.91	0.79	0.45	0.15	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
123	146	0.13	0.37	0.21	0.11	0.07	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.03
146	168	0.06	0.29	0.19	0.12	0.06	0.05	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03
168	191	0.77	3.02	1.09	0.34	0.14	0.08	0.04	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.03
191	213	1.35	9.47	4.03	1.00	0.32	0.14	0.05	0.04	0.02	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02
213	236	1.66	6.60	3.14	0.93	0.32	0.13	0.06	0.05	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.03
236	258	2.83	8.30	3.05	0.92	0.32	0.13	0.07	0.04	0.02	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
258	281	0.87	4.84	2.57	0.74	0.24	0.12	0.06	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.03
281	303	0.22	1.17	0.92	0.38	0.17	0.08	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
303	326	0.12	0.67	0.52	0.26	0.13	0.07	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
326	348	0.13	1.03	0.74	0.32	0.14	0.07	0.04	0.03	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND WIND DIRECTION(46 METERS)
 AT LIVINGSTON, MONTANA.
 (VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)
 DATA PERIOD SEP.1985 - NOV,1986.

WIND
DIRECTION
RANGE
(DEGREES)

TURBULENCE INTENSITY RANGE, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	0.15	0.76	0.58	0.35	0.22	0.12	0.09	0.06	0.04	0.03	0.02	0.02	0.02	0.02	0.01	0.00	0.01	0.01	0.00	0.04
348	11	0.09	0.39	0.33	0.25	0.17	0.12	0.08	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.04
11	33	0.17	0.82	0.66	0.45	0.27	0.18	0.11	0.09	0.06	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
33	56	0.81	4.84	1.99	0.65	0.35	0.19	0.12	0.08	0.04	0.04	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.04
56	78	1.77	6.01	1.44	0.43	0.20	0.12	0.09	0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
78	101	0.29	1.02	0.50	0.24	0.13	0.09	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.04
101	123	0.04	0.16	0.20	0.16	0.13	0.08	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
123	146	0.04	0.14	0.16	0.13	0.10	0.08	0.05	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.04
146	168	0.99	3.08	0.67	0.29	0.16	0.11	0.08	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.04
168	191	1.40	9.43	3.67	1.02	0.40	0.21	0.10	0.06	0.04	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.04
191	213	0.95	5.74	3.45	1.38	0.64	0.32	0.17	0.09	0.07	0.05	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.04
213	236	1.96	7.81	3.34	1.23	0.57	0.32	0.17	0.09	0.08	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.04
236	258	0.61	4.14	2.61	0.96	0.46	0.24	0.16	0.10	0.06	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.04
258	281	0.09	0.73	0.85	0.48	0.30	0.18	0.12	0.08	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.04
281	303	0.04	0.33	0.46	0.32	0.23	0.15	0.10	0.07	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.04
303	326	0.05	0.76	0.69	0.34	0.21	0.14	0.10	0.07	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.04
326	348																			0.05

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND WIND DIRECTION(46 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND DIRECTION AND TURBULENCE RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TEMP#46M MINUS TEMP#9M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																	
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
< -0.8	0.07	2.43	4.77	2.21	0.82	0.35	0.15	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00
-0.8 -0.6	0.04	3.06	4.32	1.30	0.35	0.11	0.05	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
-0.6 -0.2	0.66	11.54	12.54	3.51	1.12	0.46	0.19	0.11	0.07	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-0.2 +0.5	1.62	13.23	11.04	2.92	0.86	0.30	0.15	0.08	0.06	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
+0.5 +1.4	1.65	6.70	2.99	0.88	0.33	0.15	0.09	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.01
+1.4	0.73	2.67	1.03	0.43	0.23	0.13	0.09	0.06	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.01

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP _{046M} MINUS TEMP _{09M} (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	0.05	1.59	3.91	2.44	1.19	0.62	0.39	0.25	0.15	0.10	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.09
-0.6	0.04	2.74	3.98	1.43	0.52	0.20	0.13	0.07	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.03
-0.6	0.40	12.88	10.57	3.06	1.34	0.69	0.42	0.27	0.18	0.12	0.09	0.06	0.05	0.04	0.03	0.03	0.02	0.02	0.02	0.12
-0.2	0.92	15.16	8.88	2.59	1.14	0.54	0.35	0.22	0.14	0.09	0.08	0.05	0.04	0.05	0.02	0.02	0.02	0.01	0.01	0.10
+0.5	0.88	6.18	2.80	1.17	0.62	0.40	0.24	0.17	0.14	0.09	0.06	0.04	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.11
+1.4	0.36	1.86	1.07	0.67	0.41	0.28	0.21	0.14	0.11	0.09	0.07	0.06	0.04	0.04	0.03	0.03	0.02	0.02	0.01	0.15

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

TEMP@46M MINUS TEMP@9M (DEG C)		TURBULENCE INTENSITY RANGE, PERCENT																			
>		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
=<		0.23	4.65	4.41	1.63	0.71	0.32	0.15	0.08	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.05
-0.8																					
-0.6		0.22	4.79	3.01	0.82	0.23	0.09	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
-0.6		1.47	15.83	9.24	2.58	0.95	0.40	0.20	0.11	0.08	0.05	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.09
-0.2		3.00	15.70	7.13	2.09	0.71	0.31	0.15	0.09	0.08	0.06	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.09
+0.5		2.38	6.20	2.30	0.77	0.33	0.18	0.10	0.06	0.06	0.03	0.03	0.03	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.08
+1.4		0.95	2.02	0.86	0.39	0.23	0.14	0.10	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

TEMP _{46M} MINUS TEMP _{9M} (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	0.12	3.26	3.99	2.09	1.11	0.64	0.36	0.22	0.14	0.10	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.07
-0.6	0.18	4.09	3.11	0.96	0.37	0.19	0.12	0.07	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.03
-0.6	-0.2	1.28	15.92	7.86	2.59	1.24	0.72	0.43	0.26	0.18	0.13	0.10	0.07	0.05	0.04	0.03	0.03	0.02	0.02	0.13
-0.2	+0.5	2.46	15.77	5.99	2.28	1.10	0.59	0.34	0.25	0.16	0.13	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.12
+0.5	+1.4	1.70	5.47	2.27	1.10	0.63	0.38	0.25	0.18	0.12	0.09	0.07	0.05	0.04	0.03	0.03	0.02	0.02	0.01	0.14
+1.4		0.67	1.51	0.89	0.57	0.34	0.22	0.17	0.13	0.08	0.06	0.06	0.04	0.03	0.02	0.03	0.01	0.02	0.01	0.10

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-22

TEMP*4-N
MINUS
TEMP*9M
(DEG C)
Σ

TURBULENCE INTENSITY RANGE, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	0.33	4.91	3.67	1.37	0.53	0.22	0.09	0.05	0.02	0.03	0.02	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.05
-0.6	0.37	5.11	2.61	0.67	0.19	0.07	0.04	0.01	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
-0.6	-0.2	1.79	15.34	7.72	2.63	0.92	0.37	0.16	0.09	0.07	0.05	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.00	0.08
-0.2	+0.5	3.77	16.23	6.74	2.12	0.76	0.31	0.15	0.11	0.07	0.05	0.04	0.03	0.02	0.01	0.02	0.01	0.01	0.01	0.08
+0.5	+1.4	2.86	6.38	2.35	0.82	0.34	0.20	0.13	0.08	0.07	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.09
+1.4		1.33	2.36	0.97	0.45	0.28	0.17	0.11	0.08	0.06	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.09

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP@46M
MINUS
TEMP@9M
:DEC C

TURBULENCE INTENSITY RANGE, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	0.19	3.54	3.37	1.72	0.91	0.53	0.33	0.22	0.12	0.09	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.08
-0.6	0.36	4.44	2.66	0.84	0.32	0.18	0.11	0.05	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.04
-0.6	2.15	15.24	6.40	2.30	1.17	0.65	0.40	0.24	0.18	0.13	0.10	0.06	0.05	0.05	0.04	0.03	0.02	0.02	0.02	0.14
-0.2	3.64	15.72	5.75	2.23	1.13	0.64	0.36	0.25	0.17	0.12	0.09	0.07	0.06	0.05	0.03	0.03	0.03	0.03	0.02	0.14
+0.5	2.23	5.41	2.42	1.10	0.67	0.42	0.28	0.21	0.13	0.11	0.09	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.02	0.14
+1.4	0.94	1.80	1.03	0.58	0.40	0.27	0.20	0.16	0.11	0.11	0.08	0.06	0.06	0.03	0.04	0.02	0.02	0.01	0.01	0.13

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) AND DELTA T(T46M-T9M)
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

ACROSSWIND
TURBULENCE
INTENSITY
RANGE
(PERCENT)
>= <

ALONGWIND TURBULENCE INTENSITY, PERCENT

	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0-5	1.26	1.15	0.13	0.05	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-10	2.45	23.19	12.97	1.55	0.20	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-15	0.70	10.06	15.39	4.07	0.76	0.16	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-20	0.27	2.69	4.59	3.59	0.86	0.25	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20-25	0.08	1.31	1.65	1.21	0.61	0.23	0.08	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25-30	0.02	0.66	0.76	0.63	0.36	0.17	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30-35	0.00	0.35	0.48	0.36	0.24	0.14	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35-40	0.00	0.15	0.22	0.25	0.17	0.10	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40-45	0.00	0.06	0.18	0.18	0.12	0.08	0.05	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45-50	0.00	0.01	0.11	0.13	0.10	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50-55	0.00	0.01	0.08	0.08	0.08	0.05	0.04	0.03	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55-60	0.00	0.00	0.03	0.06	0.05	0.04	0.04	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-65	0.00	0.00	0.01	0.03	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65-70	0.00	0.00	0.01	0.03	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70-75	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75-80	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80-85	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85-90	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90-95	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.29

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY (4 METERS) AND ACROSSWIND TURBULENCE INTENSITY (4 METERS)
AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED ALONGWIND AND ACROSSWIND TURBULENCE RANGES)

DATA PERIOD SEP, 1985 - NOV, 1986.

ACROSSWIND
TURBULENCE
INTENSITY
RANGE

ALONGWIND TURBULENCE INTENSITY, PERCENT

(PERCENT)	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	3.10	2.90	2.28	0.03	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
<	4.17	30.52	9.92	1.14	0.19	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.63	10.81	9.57	2.40	0.47	0.13	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.23	2.76	3.86	1.84	0.59	0.20	0.06	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.07	1.14	1.52	1.16	0.53	0.22	0.08	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.03	0.58	0.76	0.62	0.42	0.18	0.08	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.28	0.41	0.39	0.27	0.15	0.08	0.04	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.14	0.28	0.23	0.21	0.12	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.04	0.16	0.16	0.12	0.10	0.06	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.01	0.10	0.12	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.04	0.08	0.06	0.05	0.05	0.03	0.02	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.02	0.05	0.06	0.05	0.03	0.02	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.01	0.03	0.04	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
55	0.00	0.00	0.00	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
85	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
90	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
95	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.31

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY 30 METERS AND ACROSSWIND TURBULENCE INTENSITY 30 METERS
AT LIVINGSTON, MONTANA.

VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED ALONGWIND AND ACROSSWIND TURBULENCE RANGES.

DATA PERIOD SEP. 1985 - NOV. 1986.

ALONGWIND
TURBULENCE
INTENSITY

ALONGWIND TURBULENCE INTENSITY, PERCENT

RANGE (PERCENT)	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>= <	4.46	4.25	0.59	0.14	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-10	0.67	10.21	8.18	1.97	0.45	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-15	0.21	2.69	3.51	1.61	0.48	0.16	0.05	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-20	0.07	1.20	1.48	1.09	0.47	0.18	0.06	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20-25	0.02	0.59	0.73	0.68	0.36	0.16	0.08	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25-30	0.00	0.29	0.46	0.39	0.28	0.14	0.07	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30-35	0.00	0.14	0.28	0.24	0.26	0.12	0.07	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35-40	0.00	0.05	0.18	0.16	0.14	0.08	0.05	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40-45	0.00	0.01	0.10	0.13	0.16	0.09	0.05	0.03	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45-50	0.00	0.00	0.05	0.09	0.09	0.06	0.04	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50-55	0.00	0.00	0.02	0.06	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55-60	0.00	0.00	0.01	0.03	0.04	0.04	0.04	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60-65	0.00	0.00	0.00	0.02	0.03	0.04	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
65-70	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70-75	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
75-80	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80-85	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85-90	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
90-95	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.03	0.03	0.02	0.01	0.02	0.36

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY (48 METERS) AND ALONGWIND TURBULENCE INTENSITY (48 METERS) AT LIVINGSTON, MONTANA.

VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATION FALLING WITHIN THE INDICATED ALONGWIND AND ALONGWIND TURBULENCE RANGE.

DATA PERIOD SEP, 1985 - NOV, 1986.

HOUR OF THE DAY		WIND SHEAR RANGE, METERS PER SECOND																9.0	10.0								
		>=		0.0		1.0		2.0		3.0		4.0		5.0		6.0				7.0		8.0		9.0		10.0	
		<																									
00	01		0.83	1.69	1.33	0.30	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
01	02		0.89	1.61	1.36	0.30	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
02	03		0.91	1.48	1.32	0.35	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
03	04		0.81	1.59	1.28	0.35	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
04	05		0.80	1.49	1.32	0.35	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
05	06		0.72	1.53	1.39	0.36	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
06	07		0.73	1.58	1.31	0.37	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
07	08		0.76	1.74	1.21	0.31	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
08	09		0.67	2.14	1.04	0.24	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
09	10		0.59	2.49	0.81	0.21	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
10	11		0.53	2.67	0.75	0.19	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
11	12		0.45	2.64	0.85	0.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
12	13		0.38	2.69	0.90	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
13	14		0.40	2.67	0.98	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14	15		0.31	2.65	1.05	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15	16		0.32	2.69	1.06	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16	17		0.27	2.62	1.21	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
17	18		0.29	2.37	1.38	0.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18	19		0.44	2.08	1.47	0.24	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
19	20		0.52	1.78	1.62	0.36	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20	21		0.62	1.64	1.58	0.42	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
21	22		0.66	1.70	1.48	0.42	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22	23		0.81	1.67	1.47	0.35	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
23	24		0.87	1.68	1.33	0.33	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA. (PERCENT OF TOTAL OBSERVATIONS)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-28

HOUR OF THE DAY		WIND SHEAR RANGE, METERS PER SECOND																									
		>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
01	<	0.70	1.35	1.20	0.58	0.21	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02		0.76	1.30	1.20	0.62	0.20	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03		0.72	1.25	1.14	0.62	0.24	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04		0.69	1.31	1.09	0.64	0.21	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05		0.71	1.24	1.05	0.68	0.23	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06		0.69	1.16	1.14	0.70	0.26	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07		0.61	1.26	1.14	0.65	0.28	0.08	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08		0.63	1.40	1.15	0.54	0.25	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09		0.53	1.76	1.09	0.47	0.21	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10		0.52	2.05	0.94	0.37	0.17	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11		0.50	2.19	0.95	0.35	0.15	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12		0.41	2.23	1.03	0.30	0.14	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13		0.42	2.20	1.09	0.32	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14		0.40	2.19	1.19	0.34	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15		0.36	2.15	1.24	0.36	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16		0.32	2.16	1.32	0.33	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17		0.27	1.99	1.50	0.36	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18		0.28	1.84	1.48	0.50	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19		0.41	1.60	1.48	0.57	0.18	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20		0.49	1.37	1.39	0.78	0.22	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21		0.56	1.36	1.28	0.73	0.29	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22		0.69	1.27	1.32	0.66	0.26	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23		0.71	1.40	1.25	0.57	0.22	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24																											

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA. (PERCENT OF TOTAL OBSERVATION)

DATA PERIOD SEP.1985 - NOV.1986.

TABLE E2-29

HOUR OF THE DAY	WIND SHEAR RANGE, METERS PER SECOND															
	>=	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0				
00 01	0.87	2.95	0.30	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01 02	0.85	2.98	0.32	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02 03	0.75	2.94	0.32	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03 04	0.77	2.87	0.33	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04 05	0.82	2.80	0.31	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05 06	0.80	2.91	0.32	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06 07	0.72	2.90	0.37	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07 08	0.72	2.98	0.33	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08 09	0.84	3.02	0.26	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09 10	0.97	2.91	0.21	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 11	1.06	2.95	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 12	1.00	2.94	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12 13	1.05	2.96	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13 14	1.05	3.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14 15	1.05	3.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15 16	0.96	3.14	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16 17	0.90	3.22	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17 18	0.85	3.23	0.16	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18 19	0.81	3.26	0.21	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19 20	0.86	3.18	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20 21	0.91	3.10	0.30	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21 22	0.86	3.07	0.38	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22 23	0.80	3.16	0.32	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23 24	0.84	3.02	0.35	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND TIME OF DAY AT LIVINGSTON, MONTANA. (PERCENT OF TOTAL OBSERVATION)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-30

WIND SPEED RANGE (M/S)		WIND SHEAR RANGE, METERS PER SECOND																	
		>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	10.0	10.0	10.0		
2.0	2.0	4.07	4.11	0.10	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2.0	4.0	9.00	14.07	1.87	0.27	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4.0	4.0	1.07	1.32	4.04	1.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4.0	8.0	6.07	6.54	7.76	0.51	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
8.0	10.0	0.10	6.45	6.85	0.89	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
10.0	12.0	0.05	2.54	5.08	1.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
12.0	14.0	0.01	0.67	2.62	0.95	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
14.0	16.0	0.00	0.19	1.23	0.73	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
16.0	18.0	0.00	0.08	0.59	0.68	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
18.0	20.0	0.00	0.02	0.23	0.50	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
20.0	22.0	0.00	0.00	0.05	0.30	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
22.0	24.0	0.00	0.00	0.01	0.11	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
24.0	26.0	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
26.0	28.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
28.0	30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30.0	32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
32.0	34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
34.0	36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
36.0	38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
38.0	40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
40.0	42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
42.0	44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
44.0	46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
46.0	48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
48.0	50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND WIND SPEED(9 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE THE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR AND WIND SPEED RANGES)
DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	WIND SHEAR RANGE, METERS PER SECOND																	
	>=		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0	
	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	10.0	9.0	8.0	7.0	6.0	5.0
0.0	5.27	3.52	0.12	0.03	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	5.63	10.92	1.97	0.28	0.04	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	1.44	9.00	0.44	0.68	0.14	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	0.47	7.95	0.04	1.44	0.17	0.03	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	0.23	5.16	7.27	2.17	0.25	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.11	2.09	5.51	2.47	0.48	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.02	0.63	3.00	2.26	0.68	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.00	0.10	0.99	1.61	0.69	0.09	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	0.00	0.03	0.37	0.99	0.62	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	0.00	0.01	0.13	0.55	0.54	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.00	0.00	0.04	0.25	0.41	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	0.00	0.00	0.00	0.08	0.29	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.00	0.00	0.00	0.02	0.13	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	0.00	0.00	0.00	0.00	0.03	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND WIND SPEED(30 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE THE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR AND WIND SPEED RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	WIND SHEAR RANGE, METERS PER SECOND															
	>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
0.0	1.83	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	7.16	13.09	0.39	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	4.21	9.00	0.34	0.34	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	4.21	11.00	0.34	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	2.39	12.10	0.44	0.44	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	1.23	9.13	0.52	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.61	5.82	0.66	0.66	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.11	3.02	0.72	0.72	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	0.03	1.65	0.74	0.74	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	0.03	0.92	0.60	0.60	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.02	0.55	0.51	0.51	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	0.00	0.26	0.40	0.40	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.00	0.14	0.26	0.26	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	0.00	0.06	0.12	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND WIND SPEED(46 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE THE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR AND WIND SPEED RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)				WIND SHEAR RANGE, METERS PER SECOND																					
>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
348	11	0.94	1.73	0.19	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	0.87	1.16	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	1.13	1.77	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	1.32	5.09	1.83	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	101	1.60	5.86	2.87	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	123	0.96	1.52	0.66	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	146	1.09	0.83	0.23	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	168	0.91	0.59	0.09	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	191	0.84	1.43	1.65	1.19	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	213	0.91	4.75	6.50	3.22	0.36	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	236	0.96	6.41	5.10	0.87	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	258	0.65	7.76	5.23	0.44	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258	281	0.50	4.98	3.43	0.17	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	303	0.45	2.12	0.81	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303	326	0.68	1.45	0.20	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	0.76	1.44	0.48	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
AND WIND DIRECTION(9 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR
AND WIND DIRECTION RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	>= <	WIND SHEAR RANGE, METERS PER SECOND																	
		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0	
		0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
348	11	0.75	1.66	0.37	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	0.74	1.31	0.14	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	1.05	2.17	0.33	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	1.31	5.46	3.13	0.41	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	101	1.82	4.37	2.83	0.75	0.11	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	123	0.91	1.12	0.50	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	146	0.47	0.61	0.18	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	168	0.49	0.52	0.11	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	191	0.65	1.34	1.49	2.01	1.53	0.54	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	213	0.89	3.56	4.23	3.41	1.46	0.32	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	236	0.94	4.42	4.47	2.15	0.39	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	258	0.82	5.54	5.84	1.86	0.16	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258	281	0.62	3.93	3.61	0.93	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	303	0.55	1.88	0.74	0.13	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303	326	0.57	1.34	0.34	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	0.56	1.43	0.75	0.21	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
AND WIND DIRECTION(30 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR
AND WIND DIRECTION RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	>= <	WIND SHEAR RANGE, METERS PER SECOND															
		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0	
		>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
348	11	0.69	1.88	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	0.65	1.44	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	1.10	2.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	2.44	6.56	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	101	3.76	6.25	0.29	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	123	1.33	1.29	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	146	0.37	0.70	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	168	0.32	0.60	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	191	0.63	3.90	1.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	213	1.97	11.12	2.98	0.10	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	236	2.13	9.87	0.72	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	258	2.31	13.27	0.48	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258	281	1.62	7.77	0.23	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	303	0.74	2.33	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303	326	0.51	1.45	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	0.52	2.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
AND WIND DIRECTION(46 METERS) AT LIVINGSTON, MONTANA.
(VALUE SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED WIND SHEAR
AND WIND DIRECTION RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-36

MAXIMUM WIND SHEAR (M/S)		WIND SHEAR RANGE, METERS PER SECOND															
>	<	0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0	
		>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
0.0	1.0	11.02	5.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.0	2.0	1.61	16.61	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	3.0	0.42	15.42	5.19	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	4.0	0.14	8.33	9.15	0.51	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	5.0	0.03	2.58	7.96	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	6.0	0.01	0.69	4.33	1.57	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	7.0	0.00	0.18	1.75	1.47	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	8.0	0.00	0.05	0.64	1.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	9.0	0.00	0.02	0.18	0.54	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	10.0	0.00	0.00	0.06	0.23	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	11.0	0.00	0.00	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.0	12.0	0.00	0.00	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	13.0	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.0	14.0	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	15.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS) AND MAXIMUM INSTANTANEOUS WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED AVERAGE WIND SHEAR AND MAXIMUM WIND SHEAR RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

MAXIMUM WIND SHEAR (M/S)	WIND SHEAR RANGE, METERS PER SECOND															
	>=		0.0		1.0		2.0		3.0		4.0		5.0		6.0	
	<		0.0		1.0		2.0		3.0		4.0		5.0		6.0	
>	-----		-----		-----		-----		-----		-----		-----		-----	
0.0	9.31	4.70	0.27	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.0	2.82	12.75	0.39	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	1.63	13.92	2.71	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	1.52	9.48	6.48	0.24	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	0.78	3.88	7.47	0.52	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	0.51	1.37	5.46	0.92	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	0.34	0.47	2.98	1.27	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	0.36	0.16	1.47	1.27	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	0.27	0.06	0.66	0.93	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	0.13	0.02	0.27	0.61	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.06	0.01	0.11	0.32	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.0	0.02	0.00	0.04	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.01	0.00	0.02	0.07	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.0	0.00	0.00	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT PROJECT RESEARCH - AVERAGE 2-MINUTE WIND SHEAR SPEED AT 40 METERS MINUS SPEED AT 9 METERS AND
 MAXIMUM INSTANTANEOUS WIND SHEAR SPEED AT 40 METERS MINUS SPEED AT 9 METERS AT LIVINGSTON, MONTANA
 AVERAGE SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED AVERAGE WIND SHEAR AND MAXIMUM
 WIND SHEAR RANGES)

DATA PERIOD SEP, 1985 - NOV, 1986.

MAXIMUM WIND SHEAR M/S,		WIND SHEAR RANGE, METERS PER SECOND																									
>	<	>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
		10.40		7.05		2.36		0.64		0.14		0.01		0.00		0.00		0.00		0.00		0.00		0.00		0.00	
0.0	1.0	13.31	0.00	24.33	0.11	19.84	0.60	10.21	1.47	3.69	1.70	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.0	2.0	24.33	0.11	19.84	0.60	10.21	1.47	3.69	1.70	1.21	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	3.0	19.84	0.60	10.21	1.47	3.69	1.70	1.21	0.03	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	4.0	10.21	1.47	3.69	1.70	1.21	0.03	0.01	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	5.0	3.69	1.70	1.21	0.03	0.01	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	6.0	1.21	0.03	0.01	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	7.0	0.01	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	8.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	9.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	10.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	11.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.0	12.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	13.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.0	14.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	15.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

WIND SHEAR RANGES)

DATA PERIOD SEP.1985 - NOV.1986.

WIND SHEAR RANGE (M/S)		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
<	<	1.54	5.47	2.89	1.29	0.64	0.35	0.20	0.13	0.13	0.08	0.06	0.06	0.03	0.03	0.02	0.01	0.02	0.02	0.01	0.16
0-0	0-0	3.16	16.56	11.29	4.00	1.63	0.74	0.38	0.22	0.13	0.08	0.07	0.06	0.04	0.03	0.02	0.03	0.03	0.02	0.02	0.20
1-0	1-0	2.35	15.47	8.13	1.92	0.63	0.25	0.11	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.03
2-0	2-0	3.94	6.85	3.26	0.77	0.22	0.09	0.04	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3-0	3-0	0.14	2.04	1.14	0.34	0.09	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-0	4-0	0.02	0.46	0.30	0.09	0.03	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-0	5-0	0.00	0.04	0.05	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6-0	6-0	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7-0	7-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-0	8-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9-0	9-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-0	10-0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
>0	>0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) AND
WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED TURBULENCE INTENSITY
AND WIND SHEAR RANGES)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E2-40

WIND SHEAR RANGE (M/S)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
<=																				
0 0	0.83	3.21	2.79	1.90	1.26	0.85	0.54	0.39	0.26	0.20	0.15	0.10	0.08	0.09	0.07	0.05	0.04	0.04	0.03	0.25
0 1	2.07	15.51	10.83	4.94	2.57	1.44	0.89	0.59	0.40	0.28	0.20	0.17	0.11	0.09	0.07	0.05	0.06	0.05	0.04	0.31
1 0	2.07	15.85	7.38	2.14	0.72	0.35	0.16	0.10	0.07	0.05	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.03
2 0	1.10	7.78	2.36	0.51	0.21	0.10	0.07	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
3 0	0.28	2.67	0.58	0.14	0.06	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4 0	0.07	0.67	0.11	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5 0	0.00	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 0	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10 0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

JOINT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) AND
WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES SHOWN ARE PERCENT OF TOTAL OBSERVATIONS FALLING WITHIN THE INDICATED TURBULENCE INTENSITY AND
WIND SHEAR RANGES)

DATA PERIOD SEP, 1985 - NOV, 1986.

TABLE E2-41

Section 3

Percent Frequency Distribution Arrays

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HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																			
		>=	<																		
0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95		
00	01	9.11	44.77	29.49	8.79	3.23	1.46	0.78	0.39	0.40	0.28	0.17	0.08	0.11	0.04	0.07	0.01	0.05	0.08	0.54	
01	02	8.53	45.23	29.04	9.36	3.43	1.50	0.98	0.25	0.36	0.24	0.12	0.13	0.11	0.05	0.07	0.05	0.03	0.04	0.40	
02	03	7.61	45.06	29.97	9.36	3.18	1.41	0.89	0.54	0.34	0.18	0.19	0.05	0.09	0.12	0.09	0.07	0.05	0.01	0.07	
03	04	7.97	43.09	31.70	8.88	3.61	1.54	0.79	0.53	0.31	0.22	0.23	0.07	0.14	0.05	0.12	0.03	0.07	0.03	0.01	
04	05	7.14	43.99	31.52	9.55	3.61	1.42	0.67	0.49	0.30	0.15	0.14	0.08	0.11	0.05	0.04	0.12	0.03	0.05	0.05	
05	06	7.12	43.51	32.55	9.05	3.61	1.60	0.63	0.40	0.36	0.12	0.16	0.10	0.07	0.05	0.05	0.04	0.01	0.01	0.53	
06	07	5.27	43.62	33.37	10.10	3.20	1.57	0.84	0.45	0.20	0.23	0.15	0.15	0.16	0.05	0.05	0.08	0.00	0.07	0.37	
07	08	3.50	41.13	36.66	10.94	3.33	1.36	0.81	0.53	0.41	0.19	0.15	0.14	0.04	0.05	0.03	0.07	0.03	0.03	0.55	
08	09	1.59	38.90	40.82	11.17	3.86	1.58	0.62	0.30	0.29	0.18	0.10	0.07	0.01	0.05	0.07	0.07	0.03	0.00	0.31	
09	10	1.24	34.05	42.24	13.60	4.32	1.93	0.81	0.49	0.29	0.18	0.19	0.11	0.04	0.04	0.05	0.01	0.01	0.01	0.37	
10	11	0.58	32.24	42.16	15.08	5.04	2.01	0.96	0.39	0.24	0.20	0.07	0.09	0.07	0.08	0.07	0.04	0.08	0.03	0.50	
11	12	0.78	28.87	44.14	16.12	5.56	1.97	0.76	0.51	0.26	0.23	0.12	0.08	0.04	0.05	0.04	0.05	0.04	0.03	0.35	
12	13	0.54	27.27	44.38	17.86	5.45	2.20	0.90	0.46	0.20	0.09	0.04	0.07	0.05	0.04	0.03	0.07	0.04	0.01	0.31	
13	14	0.65	27.67	45.05	15.94	5.79	2.03	0.90	0.58	0.33	0.17	0.11	0.09	0.05	0.00	0.05	0.08	0.05	0.03	0.42	
14	15	0.62	28.66	44.84	15.99	5.50	2.14	0.81	0.46	0.25	0.15	0.17	0.05	0.04	0.04	0.03	0.03	0.03	0.01	0.16	
15	16	0.80	32.35	43.95	14.80	4.18	1.73	0.83	0.37	0.22	0.07	0.11	0.07	0.08	0.01	0.03	0.05	0.04	0.03	0.25	
16	17	1.50	36.31	42.81	13.20	3.65	1.18	0.37	0.29	0.20	0.16	0.04	0.04	0.04	0.03	0.01	0.01	0.01	0.01	0.11	
17	18	4.25	41.79	39.23	9.59	2.87	0.93	0.39	0.25	0.13	0.10	0.07	0.03	0.07	0.03	0.05	0.03	0.04	0.00	0.14	
18	19	6.99	45.20	34.97	8.68	2.25	0.80	0.37	0.20	0.10	0.09	0.09	0.03	0.04	0.03	0.03	0.04	0.01	0.01	0.09	
19	20	7.97	46.40	33.09	7.69	2.46	0.99	0.47	0.22	0.16	0.10	0.06	0.05	0.03	0.04	0.04	0.01	0.01	0.03	0.18	
20	21	8.02	46.37	32.42	8.07	2.14	1.25	0.49	0.53	0.17	0.17	0.03	0.04	0.03	0.08	0.00	0.04	0.03	0.05	0.01	
21	22	7.24	45.60	32.70	8.34	2.62	1.23	0.63	0.29	0.29	0.10	0.09	0.13	0.05	0.07	0.08	0.01	0.05	0.05	0.39	
22	23	7.37	44.44	32.58	8.69	3.05	1.17	0.75	0.46	0.33	0.13	0.18	0.12	0.12	0.08	0.05	0.10	0.00	0.05	0.34	
23	24	8.10	44.12	30.91	9.38	3.33	1.15	0.71	0.50	0.34	0.29	0.10	0.09	0.07	0.07	0.05	0.09	0.04	0.07	0.54	

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

TABLE E3-1

HOUR OF THE DAY		TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	<																				
00	01	13.94	47.94	23.48	7.27	3.14	1.28	0.71	0.42	0.47	0.20	0.25	0.17	0.08	0.10	0.02	0.02	0.03	0.02	0.03	0.44
01	02	13.86	49.14	22.62	7.94	2.87	1.24	0.54	0.47	0.34	0.32	0.12	0.12	0.07	0.05	0.03	0.03	0.02	0.02	0.03	0.18
02	03	12.22	51.28	22.47	6.39	2.72	1.24	0.84	0.48	0.40	0.28	0.29	0.14	0.22	0.09	0.02	0.07	0.12	0.05	0.09	0.60
03	04	12.86	49.05	22.79	7.32	3.00	1.40	0.79	0.49	0.35	0.30	0.26	0.30	0.16	0.07	0.00	0.07	0.16	0.02	0.04	0.58
04	05	12.29	49.37	22.35	8.04	3.33	1.50	0.85	0.46	0.19	0.23	0.18	0.16	0.14	0.07	0.05	0.09	0.02	0.02	0.04	0.63
05	06	11.73	47.95	23.23	7.94	3.37	1.90	0.98	0.55	0.48	0.29	0.24	0.10	0.17	0.07	0.14	0.05	0.09	0.09	0.07	0.55
06	07	8.77	49.72	24.26	7.92	3.23	1.72	0.92	0.73	0.40	0.33	0.30	0.30	0.10	0.09	0.17	0.03	0.10	0.09	0.05	0.76
07	08	6.94	50.49	27.08	7.81	2.80	1.45	0.79	0.58	0.40	0.33	0.24	0.19	0.12	0.09	0.02	0.03	0.05	0.02	0.02	0.56
08	09	4.79	50.31	29.32	8.60	2.82	1.41	0.63	0.44	0.51	0.20	0.15	0.07	0.12	0.05	0.10	0.00	0.02	0.07	0.03	0.34
09	10	3.22	47.90	31.09	9.77	3.58	1.63	0.81	0.49	0.36	0.07	0.19	0.12	0.03	0.05	0.08	0.12	0.03	0.03	0.05	0.37
10	11	2.60	45.33	31.64	11.54	4.27	1.69	0.94	0.38	0.27	0.20	0.12	0.12	0.07	0.13	0.02	0.05	0.03	0.08	0.05	0.47
11	12	2.91	44.09	33.30	11.08	4.18	1.69	0.99	0.58	0.32	0.15	0.12	0.09	0.05	0.02	0.00	0.03	0.02	0.07	0.05	0.26
12	13	2.61	42.74	34.37	11.93	4.14	1.87	0.78	0.42	0.22	0.12	0.05	0.12	0.05	0.12	0.02	0.03	0.03	0.02	0.05	0.29
13	14	2.33	43.26	34.67	10.69	4.09	2.01	0.88	0.61	0.35	0.15	0.20	0.12	0.08	0.03	0.03	0.02	0.00	0.05	0.03	0.39
14	15	2.30	45.67	32.53	10.66	4.36	1.91	0.87	0.49	0.27	0.26	0.07	0.05	0.05	0.05	0.02	0.07	0.03	0.05	0.02	0.26
15	16	2.96	46.65	33.01	9.66	3.76	1.65	0.72	0.29	0.25	0.13	0.13	0.05	0.05	0.02	0.07	0.03	0.03	0.05	0.00	0.49
16	17	4.39	50.58	30.08	8.49	3.14	1.36	0.55	0.30	0.22	0.15	0.05	0.13	0.12	0.03	0.07	0.05	0.02	0.00	0.00	0.28
17	18	6.08	55.00	26.89	7.01	2.64	0.77	0.46	0.25	0.20	0.18	0.05	0.03	0.05	0.03	0.05	0.03	0.03	0.00	0.02	0.21
18	19	8.65	56.63	23.69	6.58	2.01	0.95	0.41	0.26	0.13	0.07	0.10	0.11	0.03	0.00	0.00	0.02	0.02	0.02	0.03	0.29
19	20	12.56	54.24	22.39	5.77	2.35	0.91	0.51	0.36	0.23	0.20	0.08	0.02	0.13	0.00	0.00	0.02	0.02	0.02	0.00	0.23
20	21	13.37	52.56	22.42	6.24	2.28	1.03	0.55	0.33	0.24	0.20	0.07	0.11	0.00	0.07	0.05	0.05	0.08	0.02	0.07	0.29
21	22	13.37	50.32	23.77	6.71	2.26	1.10	0.55	0.26	0.37	0.18	0.18	0.13	0.08	0.11	0.03	0.06	0.05	0.03	0.05	0.37
22	23	10.57	51.03	25.37	6.55	2.74	1.16	0.78	0.29	0.31	0.18	0.13	0.08	0.05	0.10	0.08	0.10	0.05	0.05	0.05	0.34
23	24	11.93	48.39	24.10	7.38	2.83	1.59	0.91	0.53	0.55	0.17	0.23	0.26	0.07	0.08	0.13	0.10	0.10	0.02	0.07	0.58

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA

DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	TURBULENCE INTENSITY RANGE, PERCENT																							
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95				
>=	14.47	47.62	21.84	8.02	3.25	1.47	0.88	0.64	0.30	0.34	0.10	0.09	0.07	0.12	0.03	0.04	0.09	0.06	0.00	0.56				
01	15.79	46.97	22.03	8.12	2.72	1.66	0.59	0.50	0.24	0.26	0.26	0.13	0.07	0.07	0.03	0.04	0.04	0.04	0.01	0.40				
02	15.01	48.59	21.86	6.79	3.04	1.25	0.93	0.44	0.47	0.20	0.17	0.12	0.14	0.06	0.18	0.06	0.06	0.00	0.08	0.56				
03	14.02	49.13	21.20	7.24	2.94	1.75	0.68	0.75	0.45	0.32	0.29	0.17	0.09	0.11	0.06	0.03	0.06	0.17	0.03	0.51				
04	14.69	48.35	20.37	7.83	3.69	1.44	0.96	0.59	0.38	0.18	0.18	0.12	0.11	0.21	0.11	0.08	0.03	0.05	0.03	0.61				
05	13.54	49.16	19.94	8.26	3.49	1.75	1.04	0.60	0.44	0.30	0.21	0.17	0.14	0.21	0.08	0.05	0.03	0.03	0.08	0.51				
06	11.92	50.23	20.62	8.02	3.31	1.67	1.05	0.59	0.38	0.49	0.11	0.14	0.14	0.09	0.23	0.03	0.09	0.06	0.05	0.82				
07	10.57	50.42	23.13	7.71	3.07	1.56	1.06	0.51	0.39	0.30	0.15	0.06	0.07	0.15	0.07	0.10	0.06	0.01	0.03	0.55				
08	6.52	52.01	25.25	8.35	3.08	1.17	0.92	0.52	0.28	0.28	0.24	0.07	0.13	0.06	0.06	0.16	0.01	0.03	0.03	0.42				
09	4.60	50.14	27.34	10.14	3.25	1.41	0.70	0.37	0.30	0.28	0.18	0.25	0.04	0.12	0.10	0.09	0.09	0.03	0.10	0.45				
10	3.98	49.85	28.31	10.14	3.65	1.44	0.68	0.44	0.32	0.18	0.10	0.10	0.07	0.07	0.09	0.01	0.03	0.03	0.01	0.49				
11	4.36	48.96	29.62	10.15	3.47	1.26	0.56	0.33	0.22	0.18	0.15	0.10	0.07	0.03	0.04	0.04	0.03	0.03	0.01	0.39				
12	4.02	49.38	29.89	10.07	3.37	1.42	0.51	0.37	0.13	0.13	0.07	0.06	0.06	0.01	0.03	0.01	0.01	0.04	0.03	0.37				
13	3.86	48.56	31.02	9.11	3.67	1.59	0.61	0.26	0.29	0.20	0.10	0.07	0.04	0.03	0.09	0.09	0.06	0.03	0.01	0.32				
14	3.83	51.06	29.09	9.17	3.41	1.40	0.61	0.29	0.25	0.13	0.10	0.12	0.06	0.07	0.04	0.06	0.03	0.04	0.00	0.25				
15	4.99	52.23	28.44	8.58	2.66	1.21	0.46	0.26	0.22	0.10	0.10	0.09	0.06	0.04	0.01	0.10	0.00	0.01	0.06	0.39				
16	6.94	54.70	25.83	7.25	2.70	0.98	0.59	0.19	0.17	0.16	0.06	0.04	0.03	0.06	0.04	0.03	0.03	0.01	0.01	0.19				
17	10.58	56.52	22.30	6.27	2.22	0.73	0.21	0.14	0.23	0.19	0.17	0.04	0.01	0.04	0.03	0.04	0.01	0.00	0.01	0.23				
18	14.07	54.93	20.10	5.97	2.28	1.03	0.34	0.31	0.14	0.10	0.09	0.13	0.07	0.07	0.03	0.03	0.03	0.03	0.01	0.24				
19	16.80	51.63	19.77	6.54	2.27	1.01	0.55	0.33	0.28	0.14	0.07	0.11	0.06	0.04	0.04	0.03	0.04	0.06	0.00	0.21				
20	15.20	51.79	20.84	6.54	2.48	1.08	0.50	0.34	0.30	0.13	0.16	0.10	0.04	0.04	0.04	0.04	0.04	0.01	0.03	0.30				
21	14.44	49.40	22.24	7.80	2.61	1.16	0.57	0.38	0.20	0.27	0.17	0.13	0.06	0.06	0.06	0.07	0.01	0.06	0.04	0.27				
22	12.81	48.60	23.22	7.87	3.00	1.31	0.84	0.51	0.33	0.23	0.20	0.16	0.10	0.07	0.01	0.09	0.06	0.07	0.07	0.46				
23	13.45	47.17	23.36	7.68	3.00	1.45	0.74	0.62	0.51	0.33	0.30	0.19	0.07	0.06	0.12	0.07	0.12	0.07	0.06	0.64				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-3

HOUR OF THE DAY	>=	<	TURBULENCE INTENSITY RANGE, PERCENT																				>95
			0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95		
00			5.02	44.02	26.79	9.25	4.58	2.60	1.89	1.34	0.88	0.58	0.43	0.40	0.29	0.33	0.15	0.19	0.15	0.11	0.12	0.89	
01		01	4.09	42.96	27.15	10.17	5.32	2.68	1.89	1.10	0.84	0.85	0.45	0.37	0.31	0.27	0.21	0.24	0.20	0.08	0.05	0.77	
02		02	4.01	42.46	26.44	10.29	5.46	3.13	2.00	1.29	1.10	0.66	0.53	0.39	0.41	0.26	0.15	0.12	0.14	0.08	0.09	1.00	
03		03	4.01	42.46	26.44	10.29	5.46	3.13	2.00	1.29	1.10	0.66	0.53	0.39	0.41	0.26	0.15	0.12	0.14	0.08	0.09	1.00	
04		04	4.18	42.82	26.42	10.25	5.15	3.02	1.83	1.35	0.95	0.61	0.52	0.42	0.27	0.33	0.20	0.23	0.19	0.12	0.08	1.05	
05		05	3.97	42.70	27.07	9.95	5.69	3.09	1.81	1.30	1.00	0.70	0.49	0.36	0.37	0.22	0.08	0.11	0.12	0.10	0.11	0.77	
06		06	4.13	44.89	27.55	9.67	4.62	2.78	1.75	1.00	0.81	0.49	0.45	0.27	0.25	0.18	0.10	0.10	0.07	0.08	0.07	0.77	
07		07	2.67	43.16	28.53	10.46	4.98	2.97	2.19	0.99	0.59	0.57	0.64	0.23	0.31	0.26	0.19	0.11	0.15	0.04	0.16	0.79	
08		08	2.21	40.29	30.49	10.41	6.03	3.24	2.06	1.23	0.84	0.63	0.44	0.41	0.23	0.21	0.10	0.11	0.12	0.08	0.07	0.81	
09		09	0.69	36.33	32.07	12.01	6.14	3.14	2.42	1.36	0.83	0.67	0.56	0.30	0.16	0.20	0.20	0.11	0.08	0.14	0.07	0.53	
10		10	0.72	33.41	35.02	13.17	6.48	3.12	2.21	1.43	1.11	0.72	0.56	0.37	0.34	0.24	0.11	0.19	0.07	0.14	0.10	0.49	
11		11	0.58	30.84	34.23	14.50	7.00	4.05	2.55	1.66	0.93	0.54	0.54	0.36	0.34	0.31	0.13	0.23	0.16	0.16	0.13	0.75	
12		12	0.85	29.60	34.43	16.14	6.72	3.79	2.24	1.58	0.85	0.51	0.40	0.34	0.26	0.16	0.19	0.09	0.12	0.05	0.05	0.61	
13		13	0.70	27.88	37.20	16.54	7.73	3.61	2.08	1.27	0.70	0.44	0.27	0.21	0.27	0.13	0.11	0.12	0.05	0.08	0.03	0.47	
14		14	0.70	27.45	37.70	17.73	6.97	3.05	1.88	1.02	0.70	0.50	0.46	0.22	0.29	0.22	0.17	0.13	0.12	0.07	0.07	0.55	
15		15	1.06	27.82	40.46	16.57	5.91	2.61	1.81	1.06	0.73	0.50	0.29	0.18	0.16	0.13	0.15	0.04	0.07	0.11	0.01	0.34	
16		16	0.60	31.73	40.18	14.33	5.67	2.52	1.37	0.66	0.56	0.51	0.34	0.20	0.18	0.24	0.18	0.12	0.04	0.01	0.08	0.47	
17		17	1.17	36.76	36.95	12.86	4.86	1.88	0.96	0.75	0.49	0.34	0.12	0.11	0.14	0.17	0.05	0.01	0.08	0.03	0.04	0.25	
18		18	2.53	44.75	34.98	8.14	3.81	1.53	0.84	0.80	0.27	0.25	0.12	0.13	0.13	0.12	0.07	0.05	0.04	0.04	0.07	0.25	
19		19	4.41	50.97	29.77	8.13	3.02	1.36	1.05	0.80	0.29	0.25	0.16	0.18	0.09	0.12	0.10	0.10	0.03	0.04	0.03	0.21	
20		20	4.55	52.12	26.67	6.59	3.38	1.64	1.09	0.57	0.69	0.22	0.30	0.13	0.08	0.17	0.10	0.03	0.06	0.09	0.05	0.29	
21		21	4.98	51.36	26.18	7.33	3.21	2.26	1.04	0.87	0.67	0.42	0.26	0.30	0.20	0.09	0.04	0.08	0.08	0.07	0.09	0.47	
22		22	4.36	49.49	26.08	8.44	4.04	2.19	1.41	0.90	0.56	0.46	0.34	0.20	0.16	0.27	0.20	0.10	0.03	0.08	0.08	0.61	
23		23	3.12	47.38	25.90	9.24	4.52	2.84	1.64	1.31	0.83	0.70	0.52	0.33	0.21	0.26	0.18	0.14	0.08	0.10	0.05	0.64	
24		24	3.31	44.59	27.66	9.41	4.42	2.90	1.82	1.19	1.01	0.52	0.52	0.52	0.24	0.42	0.13	0.12	0.13	0.08	0.05	0.96	

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	TURBULENCE INTENSITY RANGE, PERCENT																							
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95				
>=																								
00	10.56	45.36	21.09	8.61	4.69	2.49	1.65	1.38	0.64	0.72	0.44	0.34	0.24	0.27	0.17	0.25	0.18	0.13	0.03	0.77				
01	9.51	44.61	20.86	9.75	5.44	3.31	2.06	1.12	0.79	0.52	0.40	0.30	0.29	0.10	0.15	0.10	0.10	0.08	0.10	0.40				
02	8.83	45.58	20.52	9.43	5.22	2.70	1.93	1.26	0.79	0.64	0.34	0.34	0.34	0.21	0.28	0.22	0.15	0.14	0.10	0.96				
03	9.22	44.80	20.44	9.58	4.99	2.98	2.12	1.40	0.75	0.58	0.61	0.35	0.21	0.12	0.26	0.21	0.16	0.14	0.18	0.89				
04	7.81	46.86	20.69	9.40	4.76	2.93	2.24	1.52	0.88	0.51	0.30	0.32	0.21	0.21	0.14	0.09	0.11	0.14	0.04	0.85				
05	8.89	45.29	20.50	9.50	5.16	2.76	1.88	1.38	0.88	0.78	0.64	0.41	0.19	0.22	0.22	0.07	0.21	0.05	0.05	0.90				
06	6.96	44.51	21.90	9.52	5.11	3.14	1.93	1.56	0.80	0.89	0.54	0.47	0.36	0.26	0.33	0.21	0.19	0.12	0.10	1.09				
07	6.01	45.95	21.87	9.17	5.35	3.65	2.08	1.45	0.89	0.68	0.63	0.37	0.28	0.23	0.10	0.17	0.26	0.09	0.12	0.65				
08	3.76	46.00	23.49	9.96	5.10	3.40	2.26	1.60	0.97	0.68	0.59	0.44	0.31	0.25	0.12	0.12	0.08	0.19	0.12	0.56				
09	3.02	42.71	27.20	10.23	5.68	3.43	2.02	1.31	1.07	0.73	0.63	0.32	0.27	0.25	0.15	0.05	0.12	0.12	0.05	0.64				
10	2.72	39.09	27.82	11.99	6.80	3.82	2.34	1.34	0.95	0.68	0.42	0.22	0.25	0.17	0.25	0.18	0.10	0.07	0.05	0.75				
11	3.58	39.71	27.98	12.20	6.37	3.58	1.93	1.12	0.73	0.63	0.37	0.29	0.29	0.19	0.14	0.17	0.12	0.09	0.07	0.44				
12	2.73	38.36	30.49	13.39	6.45	2.95	1.65	1.02	0.76	0.42	0.25	0.29	0.19	0.14	0.19	0.10	0.10	0.02	0.07	0.42				
13	2.35	36.97	32.87	13.03	5.81	3.02	1.54	1.11	0.71	0.56	0.44	0.32	0.17	0.19	0.10	0.08	0.15	0.05	0.05	0.49				
14	2.47	39.06	32.45	12.52	5.62	2.57	1.65	0.94	0.65	0.36	0.37	0.20	0.19	0.14	0.12	0.03	0.10	0.09	0.05	0.43				
15	2.47	41.95	31.39	12.16	4.43	2.50	1.26	0.91	0.64	0.34	0.24	0.27	0.24	0.15	0.12	0.17	0.07	0.07	0.10	0.53				
16	3.84	46.16	30.49	9.64	3.62	1.73	1.30	0.81	0.50	0.45	0.22	0.32	0.10	0.18	0.03	0.10	0.10	0.10	0.08	0.23				
17	4.34	54.49	25.77	7.32	2.98	1.47	0.97	0.56	0.53	0.41	0.15	0.21	0.10	0.12	0.05	0.00	0.07	0.10	0.05	0.31				
18	6.88	55.48	22.52	7.11	2.95	1.93	0.80	0.57	0.41	0.25	0.18	0.10	0.10	0.15	0.03	0.03	0.07	0.07	0.07	0.31				
19	9.64	55.78	19.57	6.47	3.19	1.68	0.94	0.64	0.41	0.37	0.28	0.20	0.16	0.11	0.08	0.05	0.05	0.08	0.02	0.28				
20	11.28	54.41	18.02	6.20	3.57	2.08	1.16	0.75	0.59	0.29	0.31	0.23	0.13	0.21	0.10	0.08	0.02	0.08	0.03	0.46				
21	9.99	53.58	19.61	6.71	2.78	2.45	0.99	0.89	0.58	0.41	0.39	0.28	0.16	0.13	0.16	0.03	0.11	0.06	0.08	0.58				
22	7.98	51.37	19.79	7.98	4.35	2.22	1.61	1.34	0.85	0.52	0.31	0.31	0.23	0.18	0.11	0.15	0.07	0.02	0.07	0.55				
23	8.80	44.95	21.32	9.10	4.96	3.09	1.99	1.04	0.93	0.79	0.45	0.50	0.33	0.12	0.23	0.13	0.08	0.15	0.10	0.94				
24																								

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE D3-5

HOUR OF THE DAY		V = %	TURBULENCE INTENSITY RANGE, PERCENT																			90-95	>95
			0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90			
00	01	12.62	43.59	19.14	8.54	5.18	2.87	1.80	1.04	0.94	0.70	0.77	0.43	0.37	0.28	0.33	0.18	0.21	0.12	0.09	0.83		
01	02	11.99	42.54	19.14	9.39	5.93	3.51	2.09	1.26	1.00	0.51	0.47	0.43	0.31	0.35	0.12	0.15	0.12	0.06	0.06	0.59		
02	03	12.14	42.63	20.40	8.70	4.97	3.10	2.05	1.25	0.81	0.87	0.48	0.27	0.41	0.26	0.18	0.15	0.21	0.12	0.05	0.95		
03	04	10.86	44.83	19.54	8.01	4.69	3.37	2.08	1.63	0.77	0.72	0.65	0.53	0.39	0.38	0.17	0.24	0.12	0.11	0.08	0.83		
04	05	12.19	43.93	19.23	9.44	4.68	2.99	1.78	1.29	0.93	0.79	0.49	0.27	0.27	0.23	0.20	0.09	0.18	0.15	0.12	0.76		
05	06	13.57	44.07	17.35	8.76	4.88	3.08	1.93	1.43	1.02	0.72	0.72	0.48	0.24	0.23	0.20	0.12	0.11	0.12	0.15	0.83		
06	07	10.60	44.28	20.27	8.51	4.41	3.09	1.79	1.61	1.11	0.64	0.70	0.39	0.49	0.24	0.23	0.18	0.17	0.12	0.12	1.06		
07	08	9.01	46.04	19.13	8.31	5.02	3.76	2.43	1.42	1.02	0.75	0.58	0.43	0.25	0.30	0.21	0.16	0.09	0.10	0.09	0.87		
08	09	6.29	46.61	21.04	8.71	5.17	3.11	2.63	1.53	1.08	0.82	0.51	0.37	0.33	0.30	0.19	0.16	0.15	0.13	0.07	0.80		
09	10	4.75	44.02	25.05	9.23	5.09	3.05	2.38	1.46	0.98	0.85	0.48	0.40	0.28	0.24	0.25	0.13	0.12	0.21	0.09	0.92		
10	11	4.63	43.22	24.45	10.82	5.82	3.41	2.10	1.44	0.94	0.56	0.46	0.43	0.38	0.13	0.12	0.13	0.10	0.12	0.04	0.71		
11	12	5.04	43.47	25.60	10.82	5.22	3.23	2.00	1.17	0.77	0.56	0.40	0.33	0.16	0.21	0.12	0.16	0.10	0.04	0.03	0.56		
12	13	3.99	42.92	27.27	12.03	5.67	2.93	1.61	0.86	0.53	0.50	0.26	0.26	0.16	0.15	0.07	0.09	0.04	0.04	0.09	0.51		
13	14	4.00	42.28	29.29	10.70	5.40	2.79	1.43	1.00	0.66	0.52	0.42	0.19	0.20	0.10	0.17	0.09	0.07	0.03	0.03	0.64		
14	15	4.06	45.18	28.93	10.28	4.32	2.30	1.50	0.82	0.43	0.49	0.32	0.20	0.12	0.17	0.13	0.07	0.09	0.07	0.03	0.46		
15	16	5.23	46.61	27.65	10.09	3.58	2.13	1.19	0.82	0.43	0.42	0.33	0.19	0.19	0.13	0.17	0.11	0.07	0.04	0.04	0.57		
16	17	6.38	51.45	25.60	8.08	3.33	1.61	0.80	0.59	0.49	0.19	0.22	0.19	0.20	0.14	0.14	0.07	0.06	0.06	0.04	0.36		
17	18	9.15	55.84	21.27	6.39	2.65	1.30	0.71	0.71	0.43	0.36	0.21	0.13	0.09	0.13	0.07	0.10	0.07	0.04	0.03	0.31		
18	19	12.46	52.59	19.71	6.50	3.09	1.64	1.14	0.61	0.40	0.40	0.17	0.19	0.17	0.13	0.07	0.09	0.06	0.07	0.06	0.46		
19	20	14.85	52.17	17.13	6.51	3.47	1.72	1.11	0.75	0.48	0.34	0.26	0.20	0.10	0.17	0.11	0.07	0.04	0.04	0.04	0.43		
20	21	15.17	49.94	17.40	6.41	4.47	1.91	1.18	0.90	0.54	0.36	0.26	0.24	0.33	0.13	0.10	0.06	0.04	0.06	0.07	0.44		
21	22	14.68	48.47	18.53	6.52	3.85	2.24	1.29	0.88	0.64	0.55	0.40	0.31	0.33	0.18	0.18	0.11	0.09	0.10	0.11	0.53		
22	23	12.59	46.67	16.96	8.58	4.77	2.61	1.98	1.31	0.76	0.67	0.60	0.47	0.33	0.11	0.27	0.14	0.13	0.16	0.06	0.81		
23	24	11.98	42.99	18.94	9.16	5.06	3.29	1.85	1.35	1.01	0.93	0.43	0.35	0.35	0.19	0.32	0.29	0.17	0.16	0.16	1.01		

FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE I3-6

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>																				
<=																				
0.0	18.40	60.31	11.31	3.82	2.01	0.98	0.71	0.50	0.27	0.33	0.12	0.15	0.07	0.07	0.09	0.09	0.05	0.05	0.03	0.65
2.0	8.47	36.76	24.69	12.59	6.47	3.54	1.89	1.15	0.84	0.51	0.41	0.27	0.24	0.19	0.17	0.18	0.12	0.11	0.10	1.30
4.0	6.23	40.14	33.51	12.53	4.40	1.70	0.71	0.34	0.19	0.08	0.06	0.03	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.03
6.0	1.73	40.09	42.65	11.59	2.88	0.68	0.22	0.08	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	0.51	38.90	46.35	11.18	2.36	0.49	0.14	0.05	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.25	36.79	50.12	10.36	1.93	0.41	0.09	0.02	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.07	36.92	49.68	10.76	1.97	0.46	0.11	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.05	32.15	52.75	12.24	2.30	0.45	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	0.00	33.65	55.29	9.39	1.33	0.23	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	0.00	37.37	50.83	10.45	1.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.00	35.41	53.38	9.30	1.78	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	0.00	38.19	51.04	9.72	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.00	45.59	44.12	8.82	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	0.00	25.00	41.67	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0																				
32.0																				
34.0																				
36.0																				
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50.0																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY WIND SPEED(9 METERS) RANGES
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLL E3.7

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
> <=																				
0.0	14.37	48.69	17.09	7.18	3.48	2.02	1.29	0.81	0.80	0.50	0.29	0.38	0.20	0.18	0.13	0.20	0.22	0.19	0.17	1.81
2.0	8.49	30.58	25.26	14.63	7.82	4.13	2.39	1.41	1.10	0.69	0.60	0.43	0.33	0.22	0.20	0.16	0.13	0.09	0.11	1.21
4.0	10.32	43.75	28.17	10.41	3.99	1.66	0.70	0.43	0.22	0.12	0.08	0.06	0.02	0.01	0.00	0.00	0.01	0.00	0.01	0.03
6.0	9.50	52.37	28.61	6.64	1.90	0.64	0.17	0.07	0.03	0.03	0.02	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
8.0	7.37	56.60	28.76	5.58	1.23	0.28	0.08	0.04	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	5.65	59.20	28.50	5.31	0.97	0.20	0.12	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	3.87	61.48	28.26	5.03	0.98	0.31	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	2.91	60.04	29.55	5.99	1.21	0.23	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	1.77	58.66	31.81	6.39	1.16	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	1.53	60.75	32.12	4.77	0.59	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	3.89	63.11	27.53	4.73	0.65	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	2.20	65.20	28.20	4.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.84	68.91	26.47	3.36	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	3.66	54.88	32.93	8.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	57.14	38.10	0.00	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	11.11	44.44	44.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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36.0																				
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42.0																				
44.0																				
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48.0																				
50.0																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY WIND SPEED(30 METERS) RANGES
AT LIVINGSTON, MONTANA.
(VALUES OF " " ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>=
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
0.0 2.0	3.90	14.51	17.54	15.32	11.72	9.12	6.22	5.03	3.17	2.58	1.81	1.47	1.05	0.95	0.73	0.62	0.56	0.47	0.39	2.82
2.0 4.0	5.29	23.60	22.52	15.83	10.37	6.20	4.22	2.63	1.90	1.37	1.06	0.83	0.58	0.45	0.41	0.28	0.31	0.23	0.19	1.72
4.0 6.0	7.83	40.52	28.37	12.61	5.20	2.57	1.18	0.66	0.39	0.23	0.13	0.06	0.07	0.03	0.03	0.02	0.01	0.02	0.00	0.07
6.0 8.0	8.24	52.08	27.31	8.12	2.69	0.97	0.30	0.15	0.05	0.04	0.03	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0 10.0	6.98	58.25	26.29	6.14	1.54	0.44	0.21	0.09	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0 12.0	5.89	62.25	25.14	4.85	1.24	0.40	0.14	0.04	0.03	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0 14.0	5.09	67.62	21.51	4.05	1.18	0.38	0.09	0.06	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
14.0 16.0	4.93	68.17	20.98	4.12	1.06	0.42	0.23	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0 18.0	5.76	69.21	20.79	2.89	0.90	0.36	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0 20.0	5.89	77.37	14.26	1.71	0.29	0.35	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0 22.0	6.80	81.28	8.71	0.65	0.46	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0 24.0	13.20	83.60	3.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0 26.0	13.45	84.87	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0 28.0	17.07	79.27	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0 30.0	4.76	95.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0 32.0	22.22	66.67	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0 34.0	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0 36.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
36.0 38.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
38.0 40.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40.0 42.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
42.0 44.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
44.0 46.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
46.0 48.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
48.0 50.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY WIND SPEED(30 METERS) RANGES
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	TURBULENCE INTENSITY RANGE, PERCENT																			>=95
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	
>																				
<=																				
0.0	15.78	55.11	14.59	5.38	2.65	1.44	0.86	0.56	0.53	0.37	0.32	0.23	0.15	0.25	0.14	0.14	0.13	0.16	0.05	1.17
2.0	9.28	31.69	23.77	14.22	7.11	3.96	2.22	1.56	1.08	0.87	0.61	0.46	0.30	0.28	0.27	0.23	0.17	0.13	0.14	1.65
4.0	11.27	40.95	27.40	11.95	4.54	1.84	0.88	0.41	0.28	0.13	0.07	0.03	0.03	0.05	0.03	0.02	0.01	0.01	0.02	0.07
6.0	11.95	50.90	26.32	7.53	2.29	0.57	0.24	0.08	0.03	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
8.0	11.10	56.47	25.10	5.59	1.29	0.32	0.07	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	9.56	60.49	24.23	4.44	0.94	0.26	0.06	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
12.0	8.81	63.83	22.41	3.96	0.73	0.18	0.05	0.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	8.84	63.83	22.10	4.13	0.94	0.12	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	6.31	62.99	24.99	4.49	0.99	0.17	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	5.56	66.93	23.40	3.48	0.52	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	6.51	71.83	18.88	2.41	0.24	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	8.48	67.04	21.63	2.77	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	8.33	74.37	15.41	1.42	0.16	0.16	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	8.10	76.06	14.08	1.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	10.61	54.55	33.33	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	11.76	76.47	11.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	28.57	42.86	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0																				
38.0																				
40.0																				
42.0																				
44.0																				
46.0																				
48.0																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY WIND SPEED(46 METERS) RANGES
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE M/S	<F	TURBULENCE INTENSITY RANGE, PERCENT																		>95	
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90		90-95
0.0	2.0	4.48	15.78	17.80	14.94	11.81	9.00	6.38	4.64	3.23	2.72	1.84	1.35	0.98	0.88	0.64	0.39	0.38	0.27	0.26	2.23
2.0	4.0	5.69	21.36	19.91	14.57	10.48	6.91	4.84	3.31	2.34	1.77	1.45	1.06	0.95	0.68	0.60	0.51	0.39	0.37	0.28	2.55
4.0	6.0	9.46	39.16	26.95	12.64	5.37	2.78	1.34	0.81	0.39	0.34	0.17	0.12	0.09	0.06	0.07	0.03	0.04	0.02	0.00	0.12
6.0	8.0	11.77	50.45	25.40	7.83	2.80	1.02	0.42	0.15	0.05	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
8.0	10.0	11.21	56.71	23.32	5.99	1.85	0.56	0.18	0.09	0.06	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	12.0	9.73	61.69	21.95	4.71	1.16	0.50	0.15	0.06	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	14.0	11.24	65.23	18.71	3.23	1.15	0.29	0.07	0.05	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	16.0	11.23	66.91	17.11	3.24	1.01	0.38	0.05	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	18.0	11.77	66.17	17.96	2.77	0.87	0.27	0.12	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
18.0	20.0	11.96	72.46	13.60	1.50	0.21	0.21	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	22.0	12.69	78.15	7.79	1.09	0.09	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	24.0	20.07	73.18	6.23	0.43	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	26.0	16.67	78.93	3.77	0.31	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00
26.0	28.0	23.94	74.65	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	30.0	33.33	62.12	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	32.0	42.86	57.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	34.0	42.86	57.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	36.0	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	38.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
38.0	40.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40.0	42.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
42.0	44.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
44.0	46.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
46.0	48.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
48.0	50.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY WIND SPEED(46 METERS) RANGES
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E-12

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>= 348	5.05	36.92	28.69	14.12	6.59	3.16	1.50	0.84	0.62	0.39	0.27	0.14	0.18	0.18	0.08	0.14	0.10	0.06	0.06	0.90
348	11	7.06	38.74	25.38	12.26	5.98	3.87	1.65	0.92	0.84	0.38	0.60	0.14	0.27	0.14	0.24	0.22	0.03	0.16	0.03
11	33	8.43	41.03	25.68	11.11	5.72	2.94	1.53	0.69	0.47	0.39	0.24	0.26	0.15	0.06	0.09	0.13	0.04	0.07	0.13
33	56	5.79	45.97	34.98	7.98	2.57	1.04	0.50	0.28	0.21	0.09	0.09	0.07	0.07	0.02	0.04	0.04	0.02	0.01	0.03
56	78	3.39	39.55	43.14	9.72	2.20	0.82	0.39	0.17	0.12	0.08	0.04	0.05	0.01	0.02	0.02	0.04	0.03	0.01	0.03
78	101	8.04	47.90	28.40	8.16	2.63	1.17	0.63	0.37	0.42	0.30	0.21	0.11	0.21	0.05	0.07	0.09	0.11	0.05	0.07
101	123	16.96	47.84	18.30	6.86	3.37	2.00	0.81	0.61	0.58	0.30	0.30	0.15	0.20	0.20	0.08	0.10	0.05	0.08	0.08
123	146	16.22	44.34	16.79	8.68	4.73	2.48	1.47	1.27	0.74	0.37	0.47	0.23	0.13	0.27	0.23	0.20	0.13	0.03	0.10
146	168	6.71	40.71	34.88	10.07	3.68	1.21	0.63	0.47	0.35	0.18	0.18	0.12	0.11	0.04	0.06	0.05	0.01	0.04	0.02
168	191	2.66	37.33	44.05	11.44	2.72	0.83	0.30	0.18	0.12	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.12
191	213	5.33	41.09	37.03	10.43	3.18	1.30	0.60	0.27	0.22	0.08	0.06	0.06	0.03	0.05	0.04	0.04	0.01	0.02	0.03
213	236	3.80	48.19	33.83	8.72	2.94	1.13	0.46	0.29	0.13	0.08	0.07	0.06	0.02	0.02	0.02	0.02	0.01	0.00	0.15
236	258	1.87	27.60	44.90	16.95	4.78	1.69	0.83	0.43	0.17	0.19	0.05	0.07	0.04	0.06	0.06	0.02	0.02	0.01	0.02
258	281	2.44	22.30	38.47	21.58	7.96	2.84	1.49	0.72	0.41	0.31	0.26	0.08	0.11	0.08	0.07	0.05	0.08	0.05	0.61
281	303	4.69	33.63	27.14	15.25	8.32	3.84	1.97	1.34	0.85	0.61	0.32	0.17	0.12	0.15	0.15	0.19	0.17	0.12	0.90
303	326	4.05	29.57	33.94	15.75	7.11	3.12	1.81	0.98	0.64	0.52	0.19	0.29	0.19	0.12	0.08	0.19	0.12	0.06	1.18
326	348																			

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY WIND DIRECTION(9 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	< =>	TURBULENCE INTENSITY RANGE, PERCENT																			
		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
348	11	3.10	28.65	25.30	14.37	8.06	5.79	3.69	2.83	1.66	1.15	1.19	0.64	0.45	0.33	0.33	0.25	0.29	0.23	0.14	1.54
11	33	1.84	17.97	22.19	17.83	11.53	8.09	5.41	3.63	2.33	1.89	1.30	0.76	0.95	0.60	0.51	0.43	0.41	0.14	0.32	1.89
33	56	4.04	24.61	26.54	16.36	9.24	5.93	3.63	2.47	1.33	1.29	0.69	0.56	0.43	0.43	0.28	0.37	0.24	0.15	0.17	1.23
56	78	3.25	42.53	32.87	9.79	4.47	2.27	1.38	0.92	0.53	0.42	0.32	0.22	0.13	0.16	0.10	0.07	0.07	0.07	0.03	0.40
78	101	3.33	57.39	27.04	5.11	2.29	1.27	0.83	0.57	0.44	0.32	0.25	0.21	0.16	0.13	0.10	0.09	0.03	0.04	0.05	0.34
101	123	7.15	45.11	21.16	8.62	5.10	2.86	2.03	1.54	1.02	0.86	0.61	0.65	0.42	0.40	0.14	0.23	0.16	0.25	0.21	1.49
123	146	11.09	34.60	20.78	10.86	6.05	4.13	3.14	1.70	1.54	0.86	0.84	0.56	0.53	0.46	0.40	0.18	0.23	0.13	0.18	1.77
146	168	8.18	25.67	22.55	13.24	7.98	6.03	4.29	2.21	1.91	1.17	1.21	0.80	0.54	0.67	0.47	0.40	0.20	0.27	0.23	1.98
168	191	3.90	54.53	22.59	6.85	3.58	2.09	1.49	1.13	0.76	0.65	0.30	0.32	0.21	0.30	0.13	0.11	0.07	0.06	0.76	0.19
191	213	1.37	52.37	32.52	7.78	2.70	1.07	0.69	0.40	0.28	0.17	0.11	0.07	0.07	0.08	0.03	0.02	0.05	0.03	0.01	0.19
213	236	2.39	39.98	34.85	11.99	5.06	2.21	1.11	0.64	0.43	0.25	0.18	0.15	0.11	0.11	0.07	0.07	0.05	0.03	0.05	0.28
236	258	1.92	46.22	32.29	10.12	4.04	1.97	1.07	0.62	0.38	0.30	0.21	0.15	0.11	0.12	0.05	0.06	0.04	0.04	0.02	0.29
258	281	0.77	23.55	42.22	17.75	6.89	2.68	1.88	1.02	0.72	0.45	0.42	0.26	0.22	0.21	0.13	0.08	0.11	0.05	0.04	0.54
281	303	0.74	9.68	35.83	23.76	11.16	5.59	3.77	2.25	1.71	0.95	0.97	0.53	0.54	0.53	0.31	0.21	0.16	0.23	0.08	1.00
303	326	1.97	13.84	25.12	19.16	12.62	7.44	5.16	3.65	2.24	1.61	1.19	1.07	1.12	0.85	0.36	0.25	0.27	0.19	1.48	1.48
326	348	0.79	12.34	34.46	19.66	10.81	6.50	3.74	2.97	2.29	1.33	1.00	0.62	0.44	0.42	0.37	0.25	0.12	0.17	0.25	1.48

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY WIND DIRECTION(9 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
348	7.24	35.30	25.39	13.63	7.96	3.77	1.72	1.17	0.72	0.55	0.55	0.30	0.12	0.05	0.15	0.20	0.07	0.07	0.12	0.90
11	6.74	39.39	24.02	11.62	5.71	3.06	2.24	1.29	0.57	0.51	0.41	0.35	0.25	0.19	0.06	0.13	0.06	0.19	0.09	1.10
33	11.24	43.22	23.33	10.41	4.70	2.53	1.32	0.68	0.58	0.18	0.16	0.18	0.08	0.10	0.08	0.08	0.14	0.06	0.08	0.86
56	7.73	58.23	23.69	5.28	2.35	0.98	0.40	0.28	0.18	0.14	0.09	0.05	0.06	0.05	0.04	0.04	0.04	0.02	0.04	0.31
78	4.71	48.37	34.59	7.69	2.18	0.81	0.46	0.27	0.12	0.08	0.09	0.04	0.09	0.04	0.02	0.02	0.05	0.01	0.01	0.35
101	7.63	44.36	27.96	10.34	3.16	2.07	1.12	0.72	0.48	0.43	0.24	0.21	0.11	0.24	0.11	0.00	0.05	0.03	0.05	0.69
123	12.78	36.38	21.06	10.18	5.96	3.14	2.49	1.41	1.14	0.81	0.60	0.65	0.38	0.22	0.27	0.16	0.38	0.16	0.16	1.68
146	10.35	37.67	19.68	10.66	6.27	3.51	2.69	1.35	1.17	0.94	0.94	0.76	0.47	0.35	0.23	0.12	0.23	0.29	0.18	2.23
168	8.34	54.58	24.88	7.05	2.17	1.03	0.42	0.19	0.34	0.16	0.14	0.09	0.07	0.05	0.09	0.04	0.03	0.04	0.01	0.28
191	6.20	53.86	28.11	7.35	2.20	0.86	0.44	0.22	0.18	0.06	0.08	0.07	0.03	0.03	0.02	0.03	0.02	0.01	0.03	0.16
213	11.83	50.77	24.69	7.39	2.49	1.10	0.43	0.36	0.20	0.11	0.07	0.09	0.02	0.06	0.05	0.03	0.05	0.02	0.03	0.20
236	13.05	52.74	22.90	6.76	2.14	0.98	0.49	0.23	0.19	0.12	0.09	0.06	0.05	0.03	0.02	0.01	0.01	0.01	0.02	0.14
258	4.98	47.53	31.93	8.95	3.27	1.15	0.60	0.33	0.31	0.14	0.16	0.11	0.07	0.05	0.01	0.06	0.02	0.02	0.02	0.30
281	4.64	36.24	31.30	13.23	6.07	2.98	1.33	0.85	0.78	0.50	0.24	0.30	0.26	0.07	0.07	0.07	0.11	0.07	0.07	0.82
303	5.60	31.87	28.82	14.90	7.45	3.26	1.85	1.32	0.99	0.74	0.37	0.49	0.25	0.12	0.12	0.18	0.15	0.22	0.15	1.14
326	4.04	36.02	31.55	13.01	6.33	3.16	1.79	0.92	0.71	0.54	0.33	0.19	0.24	0.09	0.05	0.14	0.02	0.05	0.05	0.76

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY WIND DIRECTION(30 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	>=		<		>=		<		>=		<		>=		<		>=		<	
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	4.17	28.93	23.91	15.03	9.06	5.67	3.27	2.25	1.62	1.05	0.67	0.80	0.62	0.32	0.32	0.25	0.40	0.12	0.10	1.47
11	4.36	21.31	22.38	15.72	11.87	6.82	4.67	3.09	2.18	1.39	1.26	0.76	0.35	0.54	0.44	0.51	0.47	0.22	0.19	1.48
33	5.24	30.12	24.24	14.51	8.53	5.22	3.39	2.15	1.48	1.04	0.58	0.50	0.38	0.38	0.28	0.32	0.24	0.24	0.12	1.04
56	4.23	50.55	26.99	8.28	3.59	2.02	1.20	0.84	0.39	0.35	0.25	0.19	0.16	0.16	0.06	0.10	0.04	0.04	0.03	0.47
78	9.76	61.35	16.51	4.72	2.38	1.51	0.94	0.56	0.48	0.36	0.27	0.18	0.11	0.13	0.11	0.04	0.04	0.08	0.06	0.42
101	7.02	41.79	21.05	10.10	5.58	3.72	2.45	1.99	0.93	1.17	0.72	0.58	0.35	0.48	0.27	0.21	0.29	0.24	0.13	0.93
123	4.44	21.01	21.60	14.19	10.12	6.55	4.33	3.84	2.54	1.41	1.57	1.25	0.87	0.92	0.60	0.38	0.76	0.22	0.43	2.98
146	4.28	19.57	20.97	15.17	9.90	6.97	4.75	2.99	2.93	1.93	1.76	1.23	1.00	0.59	0.47	0.53	0.88	0.64	0.23	3.22
168	9.47	64.41	13.59	4.76	2.51	1.41	0.96	0.64	0.44	0.35	0.26	0.26	0.19	0.05	0.06	0.05	0.05	0.04	0.04	0.45
191	4.93	54.54	25.67	7.92	3.12	1.27	0.77	0.41	0.30	0.21	0.19	0.09	0.08	0.04	0.08	0.04	0.02	0.02	0.05	0.23
213	7.84	43.93	26.60	10.35	4.69	2.48	1.24	0.75	0.52	0.35	0.21	0.15	0.11	0.11	0.11	0.06	0.06	0.06	0.04	0.35
236	9.75	48.86	23.99	8.34	3.47	1.91	1.05	0.74	0.46	0.30	0.21	0.19	0.12	0.09	0.07	0.06	0.05	0.03	0.03	0.74
258	3.77	40.93	30.53	11.80	5.00	2.50	1.58	0.96	0.60	0.48	0.34	0.32	0.19	0.17	0.14	0.05	0.08	0.08	0.06	0.43
281	2.39	22.22	29.52	16.28	9.21	6.16	3.70	2.66	1.63	1.26	0.89	0.81	0.57	0.37	0.28	0.26	0.22	0.22	0.13	1.22
303	2.40	17.40	23.74	17.00	11.48	7.76	5.20	3.91	2.40	1.88	1.17	0.62	0.71	0.55	0.49	0.34	0.31	0.40	0.25	2.00
326	1.91	28.86	30.37	13.70	8.08	4.91	3.12	2.03	1.35	1.28	0.80	0.61	0.43	0.31	0.35	0.31	0.26	0.17	0.19	0.97

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY WIND DIRECTION(30 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

WIND DIRECTION RANGE (DEGREES)		TURBULENCE INTENSITY RANGE, PERCENT																			
		>=	<	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
348	11	8.56	38.74	24.25	12.20	6.67	3.25	1.75	0.98	0.62	0.48	0.24	0.24	0.10	0.17	0.10	0.24	0.05	0.12	0.10	1.17
11	33	10.62	40.78	22.81	11.41	5.81	2.65	1.38	0.93	0.45	0.63	0.15	0.24	0.21	0.15	0.12	0.12	0.06	0.09	0.06	1.32
33	56	13.14	43.98	21.44	10.20	4.41	2.26	1.08	0.61	0.47	0.35	0.24	0.24	0.14	0.20	0.02	0.10	0.04	0.10	0.12	0.84
56	78	10.51	59.94	20.46	4.86	1.73	0.99	0.36	0.23	0.20	0.11	0.08	0.07	0.05	0.03	0.02	0.03	0.06	0.01	0.01	0.26
78	101	3.92	47.69	30.74	11.34	3.66	0.90	0.52	0.23	0.15	0.12	0.15	0.08	0.06	0.05	0.03	0.04	0.05	0.03	0.04	0.21
101	123	3.95	34.97	30.27	17.33	5.59	2.35	1.24	0.89	0.66	0.40	0.33	0.16	0.19	0.31	0.12	0.09	0.09	0.09	0.05	0.92
123	146	12.04	34.37	19.33	10.51	6.67	2.43	3.11	2.09	1.58	1.24	0.96	0.62	0.40	0.51	0.51	0.34	0.28	0.17	0.11	2.71
146	168	6.81	31.26	20.30	12.97	6.61	5.06	4.15	2.53	1.88	1.43	1.17	0.91	0.52	0.32	0.58	0.52	0.06	0.13	0.06	2.72
168	191	13.68	53.37	19.27	6.09	2.47	1.33	0.77	0.60	0.60	0.35	0.22	0.22	0.04	0.09	0.10	0.05	0.06	0.06	0.04	0.58
191	213	8.15	57.36	24.42	6.06	1.92	0.84	0.31	0.21	0.13	0.13	0.08	0.06	0.03	0.04	0.04	0.02	0.02	0.02	0.02	0.15
213	236	12.77	50.69	24.13	7.16	2.42	1.02	0.49	0.36	0.19	0.13	0.07	0.07	0.06	0.06	0.05	0.04	0.02	0.04	0.01	0.18
236	258	17.94	52.62	19.36	5.82	2.06	0.83	0.43	0.22	0.11	0.11	0.10	0.06	0.03	0.03	0.04	0.02	0.04	0.05	0.04	0.27
258	281	9.05	50.56	26.80	7.75	2.50	1.23	0.62	0.31	0.24	0.16	0.12	0.09	0.04	0.07	0.03	0.04	0.05	0.04	0.03	0.27
281	303	7.01	38.18	29.93	12.22	5.58	2.54	1.09	0.81	0.52	0.46	0.32	0.02	0.10	0.16	0.14	0.08	0.06	0.14	0.10	0.56
303	326	6.39	34.80	27.02	13.64	6.83	3.81	1.76	0.85	1.10	0.66	0.44	0.16	0.47	0.19	0.25	0.13	0.09	0.16	0.09	1.13
326	348	4.99	39.92	28.71	12.24	5.41	2.59	1.37	0.99	0.64	0.45	0.19	0.35	0.14	0.12	0.19	0.19	0.05	0.09	0.09	1.29

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY WIND DIRECTION(46 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=																				
<																				
348	5.93	29.89	22.55	13.85	8.56	4.83	3.56	2.37	1.60	1.15	0.91	0.60	0.65	0.72	0.29	0.19	0.26	0.26	0.19	1.65
11	4.63	19.02	18.84	16.40	12.10	8.22	5.81	3.97	2.26	1.87	1.38	0.90	0.63	0.72	0.45	0.39	0.18	0.18	0.15	1.90
33	5.67	27.42	22.17	14.95	8.98	6.02	3.73	2.88	1.96	1.16	1.02	0.73	0.49	0.24	0.39	0.29	0.33	0.16	0.08	1.33
56	8.70	52.32	21.45	7.03	3.77	2.08	1.29	0.88	0.46	0.42	0.28	0.20	0.23	0.16	0.13	0.05	0.04	0.05	0.02	0.44
78	17.09	57.99	13.93	4.18	1.93	1.19	0.91	0.67	0.43	0.24	0.20	0.21	0.11	0.11	0.13	0.09	0.06	0.05	0.06	0.41
101	10.97	39.20	19.42	9.30	5.14	3.50	2.28	1.50	1.71	1.15	1.10	0.73	0.66	0.49	0.45	0.26	0.33	0.16	0.14	1.50
123	3.96	14.98	18.09	14.58	12.32	7.63	5.71	3.67	2.54	2.94	2.49	1.92	1.19	0.68	0.73	0.90	0.73	0.51	0.28	4.13
146	3.83	14.66	17.12	13.81	10.25	8.69	5.77	4.22	3.24	2.98	2.79	2.14	0.97	1.56	0.91	0.97	0.52	0.91	0.58	4.09
168	7.53	54.51	11.83	5.07	2.74	1.88	1.37	0.96	0.74	0.70	0.45	0.32	0.28	0.15	0.18	0.15	0.11	0.12	0.10	0.80
191	6.49	57.09	22.21	6.18	2.43	1.27	0.63	0.38	0.25	0.19	0.11	0.12	0.11	0.05	0.06	0.06	0.06	0.05	0.04	0.22
213	7.31	44.07	26.46	10.59	4.91	2.43	1.27	0.70	0.52	0.41	0.31	0.14	0.17	0.08	0.07	0.07	0.06	0.05	0.07	0.31
236	12.41	49.47	21.18	7.82	3.58	2.02	1.06	0.58	0.49	0.32	0.17	0.14	0.14	0.11	0.09	0.03	0.04	0.04	0.04	0.26
258	6.41	43.23	27.21	9.99	4.76	2.47	1.64	1.10	0.63	0.50	0.37	0.31	0.25	0.15	0.13	0.11	0.08	0.05	0.04	0.57
281	2.94	23.81	27.53	15.52	9.74	5.91	3.85	2.66	1.63	1.21	1.01	0.60	0.60	0.54	0.40	0.26	0.28	0.20	0.08	1.25
303	2.08	17.20	23.50	16.44	11.87	7.69	5.10	3.62	2.24	1.92	1.45	0.88	0.79	0.82	0.69	0.69	0.31	0.31	0.16	2.24
326	2.12	29.40	26.76	13.11	8.21	5.34	3.79	2.75	1.34	1.41	0.85	0.75	0.61	0.38	0.35	0.26	0.19	0.28	0.16	1.93
348																				

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY WIND DIRECTION(46 METERS) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP. 1985 - NOV. 1986.

TEMP _{46M} MINUS TEMP _{3M} (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>	0.63	21.98	43.10	19.95	7.43	3.19	1.34	0.65	0.34	0.25	0.15	0.11	0.06	0.05	0.06	0.08	0.07	0.05	0.02	0.52
-0.8	0.40	32.77	46.28	13.92	3.79	1.16	0.57	0.24	0.18	0.08	0.06	0.08	0.04	0.02	0.04	0.03	0.02	0.03	0.02	0.27
-0.6	2.18	37.91	41.22	11.55	3.67	1.50	0.62	0.36	0.23	0.13	0.10	0.04	0.05	0.04	0.03	0.03	0.03	0.02	0.02	0.25
-0.4	5.32	43.46	36.27	9.58	2.81	0.99	0.48	0.28	0.19	0.11	0.08	0.07	0.05	0.03	0.03	0.03	0.02	0.01	0.02	0.19
-0.2	12.66	51.24	22.87	6.76	2.54	1.18	0.68	0.43	0.28	0.20	0.14	0.09	0.09	0.09	0.06	0.08	0.03	0.04	0.05	0.50
+0.5	12.94	47.18	18.20	7.64	4.14	2.26	1.55	1.02	0.92	0.56	0.45	0.33	0.26	0.22	0.23	0.20	0.09	0.16	0.12	1.55
+1.4																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY DELTA T(T_{46M}-T_{9M}) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 ~ NOV,1986.

TABLE E3-19

TEMP46M MINUS TEMP49M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>	0.45	14.41	35.35	22.01	10.75	5.64	3.53	2.30	1.34	0.90	0.59	0.48	0.40	0.32	0.21	0.18	0.09	0.13	0.09	0.83
=<																				
-0.8																				
-0.6	0.43	29.40	42.67	15.29	5.59	2.16	1.39	0.71	0.48	0.39	0.30	0.16	0.15	0.13	0.08	0.09	0.11	0.04	0.05	0.36
-0.2	1.32	42.32	34.74	10.07	4.40	2.28	1.37	0.88	0.59	0.39	0.30	0.21	0.17	0.14	0.11	0.08	0.08	0.08	0.06	0.40
-0.2	3.03	49.79	29.16	8.49	3.76	1.78	1.15	0.72	0.46	0.31	0.26	0.18	0.14	0.17	0.08	0.06	0.07	0.03	0.04	0.33
+0.5	6.72	47.27	21.44	8.98	4.76	3.07	1.85	1.32	1.04	0.66	0.50	0.31	0.34	0.27	0.15	0.15	0.14	0.09	0.09	0.88
+1.4	6.43	32.78	18.88	11.86	7.26	4.89	3.64	2.39	1.92	1.58	1.31	1.07	0.75	0.79	0.52	0.48	0.28	0.29	0.26	2.61

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP#46M MINUS TEMP#9M (DEG C)		TURBULENCE INTENSITY RANGE, PERCENT																			
>		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
=<		1.82	37.61	35.70	13.22	5.75	2.58	1.23	0.62	0.33	0.19	0.11	0.11	0.08	0.06	0.05	0.06	0.02	0.02	0.05	0.40
-0.8		2.35	51.50	32.29	8.78	2.44	0.93	0.46	0.32	0.17	0.12	0.14	0.10	0.06	0.04	0.02	0.02	0.02	0.02	0.00	0.21
-0.6		4.71	50.82	29.66	8.29	3.04	1.28	0.64	0.37	0.27	0.17	0.11	0.09	0.07	0.05	0.04	0.04	0.02	0.02	0.02	0.28
-0.2		10.14	53.14	24.14	7.09	2.41	1.05	0.49	0.32	0.27	0.19	0.12	0.10	0.05	0.05	0.03	0.03	0.03	0.03	0.04	0.30
+0.5		18.80	49.01	18.17	6.08	2.60	1.43	0.80	0.50	0.49	0.26	0.26	0.21	0.16	0.12	0.09	0.11	0.13	0.06	0.07	0.66
+1.4		18.95	40.38	17.27	7.83	4.64	2.73	1.93	1.12	0.89	0.52	0.55	0.38	0.25	0.21	0.17	0.13	0.22	0.15	0.15	1.53

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP@46M MINUS TEMP@9M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>	0.97	26.36	32.26	16.93	8.99	5.15	2.88	1.80	1.14	0.83	0.53	0.37	0.31	0.26	0.18	0.15	0.11	0.10	0.09	0.60
=<																				
-0.8	1.93	43.93	33.38	10.33	4.00	2.07	1.32	0.77	0.50	0.32	0.20	0.26	0.13	0.11	0.11	0.07	0.12	0.08	0.05	0.32
-0.6	4.11	51.13	25.24	8.33	3.98	2.30	1.37	0.84	0.58	0.42	0.32	0.23	0.16	0.13	0.10	0.11	0.10	0.07	0.06	0.42
-0.2	8.33	53.39	20.28	7.73	3.72	1.99	1.15	0.85	0.55	0.43	0.29	0.23	0.15	0.13	0.10	0.07	0.08	0.06	0.05	0.42
+0.5	13.47	43.28	17.94	8.72	4.97	3.02	1.99	1.44	0.95	0.74	0.52	0.43	0.36	0.26	0.26	0.18	0.12	0.16	0.12	1.09
+1.4	13.41	30.30	17.74	11.36	6.80	4.41	3.47	2.64	1.69	1.28	1.15	0.89	0.60	0.49	0.52	0.30	0.41	0.21	0.24	2.09

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP@46M MINUS TEMP@9M (DEG C)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
-0.8	2.95	43.27	32.37	12.09	4.71	1.95	0.79	0.42	0.21	0.24	0.16	0.09	0.05	0.09	0.02	0.05	0.02	0.02	0.04	0.48
-0.6	4.02	55.83	28.56	7.36	2.08	0.77	0.41	0.14	0.17	0.13	0.06	0.04	0.03	0.03	0.03	0.06	0.02	0.03	0.02	0.22
-0.6	6.10	52.24	26.28	8.95	3.14	1.25	0.56	0.32	0.22	0.17	0.13	0.08	0.06	0.06	0.05	0.05	0.03	0.03	0.02	0.26
-0.2	12.33	53.14	22.07	6.95	2.48	1.00	0.50	0.36	0.23	0.16	0.12	0.10	0.06	0.04	0.06	0.04	0.03	0.03	0.04	0.28
+0.5	21.18	47.26	17.46	6.04	2.50	1.50	0.99	0.60	0.49	0.34	0.20	0.18	0.10	0.11	0.09	0.09	0.07	0.07	0.04	0.68
+1.4	21.86	38.76	15.95	7.36	4.60	2.81	1.81	1.34	0.96	0.67	0.52	0.40	0.27	0.36	0.27	0.13	0.21	0.13	0.09	1.46

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

TABLE E3-23

TEMP46M MINUS TEMP49M (DEG C)		TURBULENCE INTENSITY RANGE, PERCENT																			
>		0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
=<		1.69	31.20	29.73	15.13	8.05	4.69	2.95	1.95	1.06	0.75	0.54	0.46	0.28	0.22	0.17	0.17	0.09	0.09	0.07	0.72
-0.8		3.95	48.45	29.10	9.13	3.44	1.97	1.18	0.57	0.40	0.43	0.25	0.14	0.16	0.14	0.09	0.09	0.03	0.03	0.01	0.45
0.8		7.32	51.89	21.78	7.82	3.99	2.21	1.38	0.80	0.61	0.44	0.32	0.21	0.17	0.16	0.15	0.10	0.06	0.06	0.06	0.46
-0.2		11.93	51.46	18.82	7.29	3.70	2.10	1.19	0.82	0.56	0.40	0.31	0.23	0.20	0.15	0.08	0.08	0.08	0.09	0.06	0.45
+0.5		16.51	40.11	17.91	8.13	4.97	3.14	2.08	1.54	0.99	0.81	0.63	0.47	0.39	0.29	0.26	0.20	0.20	0.19	0.11	1.07
+1.4		19.50	29.59	16.95	9.56	6.62	4.43	3.34	2.59	1.88	1.73	1.32	0.98	0.91	0.55	0.65	0.36	0.38	0.23	0.24	2.17

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

ACROSSWIND
TURBULENCE
INTENSITY

ALONGWIND TURBULENCE INTENSITY, PERCENT

RANGE PERCENT	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>95
>=	47.39	43.27	5.08	1.86	0.94	0.56	0.25	0.19	0.08	0.02	0.00	0.02	0.02	0.04	0.00	0.04	0.04	0.00	0.02	0.17
5	6.05	57.38	32.11	3.84	0.48	0.08	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	2.26	32.23	49.30	13.04	2.43	0.51	0.14	0.04	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	2.37	23.66	40.39	22.82	7.54	2.20	0.65	0.22	0.08	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	1.50	25.02	31.53	23.19	11.70	4.42	1.48	0.74	0.26	0.09	0.01	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00
25	0.65	23.95	27.69	23.06	13.09	6.26	2.98	1.18	0.53	0.30	0.04	0.06	0.02	0.04	0.00	0.06	0.04	0.02	0.02	0.02
30	0.16	20.01	27.91	20.74	13.80	8.26	4.10	2.18	1.41	0.61	0.26	0.16	0.06	0.06	0.06	0.06	0.03	0.06	0.00	0.06
35	0.05	13.11	28.61	22.53	15.25	9.07	5.58	2.44	1.55	0.65	0.45	0.15	0.15	0.05	0.00	0.00	0.25	0.00	0.00	0.10
40	0.15	7.34	24.38	23.57	16.23	11.01	6.17	3.67	2.79	2.20	1.03	0.22	0.29	0.22	0.22	0.07	0.00	0.00	0.07	0.37
45	0.00	2.43	20.06	23.44	18.90	13.41	6.76	4.96	3.38	2.11	1.16	1.27	0.42	0.11	0.00	0.74	0.21	0.00	0.21	0.42
50	0.14	1.38	15.03	21.93	18.76	14.76	9.79	6.48	4.41	1.24	1.93	0.97	1.24	0.28	0.41	0.14	0.14	0.14	0.14	0.69
55	0.00	1.54	7.71	21.77	17.53	13.87	12.72	5.39	5.59	3.47	2.12	2.12	1.54	0.77	0.39	0.77	0.39	0.00	0.58	1.73
60	0.00	1.65	5.42	12.97	18.63	15.57	11.08	9.67	7.31	4.01	2.36	2.59	1.89	1.18	0.94	0.94	0.24	0.71	0.71	2.12
65	0.00	0.50	3.02	11.56	17.59	13.82	11.56	10.30	7.04	4.77	4.27	3.27	2.01	1.76	2.26	1.26	0.50	0.75	0.00	3.77
70	0.00	0.40	1.21	7.69	15.79	14.57	12.96	11.34	9.31	6.07	3.24	4.45	1.62	1.21	1.62	0.81	1.21	1.21	0.40	4.86
75	0.00	0.00	1.40	5.58	13.49	15.35	12.56	8.37	7.91	5.58	6.51	3.72	2.33	2.33	2.33	3.72	0.93	0.47	1.40	6.05
80	0.00	0.00	0.00	1.12	12.36	10.67	12.36	9.55	8.43	10.11	5.62	4.49	4.49	5.06	2.81	1.12	0.00	2.25	1.12	8.43
85	0.00	0.00	2.05	3.42	8.22	10.27	13.70	7.53	6.16	8.22	7.53	3.42	4.11	4.11	4.11	2.05	0.00	2.74	0.68	11.64
90	0.00	0.00	0.78	2.33	6.20	11.63	10.08	6.98	6.98	10.08	3.88	5.43	3.88	4.65	4.65	3.10	3.10	4.65	1.55	10.08
95	0.00	0.00	0.09	0.27	0.91	1.82	2.18	5.09	5.36	4.09	5.63	3.63	3.63	3.36	3.54	3.91	3.00	2.45	2.82	48.23

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY ACROSSWIND TURBULENCE INTENSITY(9 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-25

ACROSSWIND
TURBULENCE
INTENSITY
RANGE

ALONGWIND TURBULENCE INTENSITY, PERCENT

(PERCENT)	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	48.38	45.14	4.33	0.50	0.31	0.28	0.20	0.20	0.14	0.07	0.08	0.05	0.05	0.05	0.01	0.01	0.00	0.01	0.02	0.15
<	9.05	66.31	21.56	2.48	0.42	0.09	0.03	0.01	0.02	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	2.60	44.87	39.73	9.97	1.96	0.52	0.19	0.07	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
5	2.41	28.75	40.18	19.20	6.16	2.11	0.66	0.26	0.09	0.09	0.06	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01
10	1.51	23.82	31.75	24.22	11.00	4.53	1.57	0.78	0.32	0.13	0.10	0.06	0.07	0.00	0.00	0.01	0.01	0.01	0.01	0.09
15	1.00	21.16	27.68	22.63	15.24	6.59	2.77	1.41	0.49	0.41	0.23	0.10	0.03	0.08	0.00	0.05	0.05	0.00	0.00	0.08
20	0.17	16.55	24.66	23.19	16.30	8.70	4.54	2.23	1.47	0.84	0.50	0.34	0.13	0.08	0.08	0.00	0.00	0.00	0.00	0.21
25	0.19	12.28	24.62	20.61	19.17	10.28	5.20	2.63	1.82	1.00	0.69	0.44	0.38	0.06	0.31	0.06	0.06	0.00	0.00	0.19
30	0.00	5.44	22.06	21.11	16.71	13.09	8.40	4.68	3.34	1.05	1.34	1.34	0.48	0.38	0.00	0.00	0.19	0.29	0.10	0.00
35	0.00	0.00	1.79	18.44	21.90	17.03	13.06	8.96	6.27	4.23	2.56	1.92	0.90	1.28	0.64	0.26	0.13	0.00	0.13	0.38
40	0.00	0.36	10.16	20.32	15.69	12.66	13.37	6.60	5.70	4.46	2.14	3.03	0.89	1.43	1.07	0.18	0.71	0.36	0.00	0.89
45	0.00	0.92	7.55	16.25	20.37	17.62	9.38	5.25	7.09	3.66	1.60	2.97	1.14	1.14	1.60	0.46	0.23	0.69	0.92	1.14
50	0.00	0.32	4.76	12.70	15.87	16.19	17.70	9.52	7.30	4.76	4.13	2.54	2.54	1.27	1.27	0.32	0.32	0.95	0.95	1.59
55	0.00	0.00	1.57	9.84	14.57	12.20	11.81	11.02	11.02	9.84	4.72	2.36	2.76	1.97	0.00	1.18	0.79	0.39	0.79	3.15
60	0.00	0.00	0.00	3.26	8.37	8.37	10.23	12.56	11.63	10.70	7.44	5.12	5.58	3.72	1.86	1.40	2.33	2.33	0.00	1.86
65	0.00	0.00	0.00	1.20	4.82	9.04	8.43	10.84	9.04	16.87	6.63	3.61	5.42	6.02	3.61	1.20	3.01	0.60	2.41	1.20
70	0.00	0.00	0.00	0.61	1.23	6.75	9.20	9.82	15.95	9.20	7.98	6.13	3.07	3.68	2.45	2.45	1.23	1.84	1.23	10.43
75	0.00	0.00	0.00	0.00	1.52	5.30	6.82	12.88	14.39	7.58	6.82	6.06	6.06	3.03	0.76	5.30	1.52	0.00	0.00	12.12
80	0.00	0.00	0.00	0.95	2.86	10.48	9.52	15.24	9.52	7.62	3.81	3.81	1.90	0.95	2.86	7.62	2.86	0.95	0.95	18.10
85	0.00	0.00	0.00	0.12	1.05	1.75	2.34	2.69	3.86	3.04	5.61	3.86	3.04	2.81	3.51	3.04	4.56	3.27	3.63	51.81
90																				
95																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY ACROSSWIND TURBULENCE INTENSITY(30 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

ACROSSWIND
TURBULENCE
INTENSITY

ALONGWIND TURBULENCE INTENSITY, PERCENT

RANGE (PERCENT)	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
>=	46.87	44.64	6.15	1.51	0.34	0.13	0.07	0.10	0.07	0.01	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.02
<	10.87	66.93	18.38	3.07	0.58	0.10	0.03	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	3.08	47.21	37.80	9.12	2.06	0.46	0.14	0.05	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	2.43	30.77	40.09	16.43	5.53	1.80	0.52	0.15	0.14	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
10	1.48	26.03	32.26	23.72	10.26	3.91	1.27	0.56	0.28	0.12	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.75	21.86	27.22	25.23	13.50	6.06	2.85	1.24	0.52	0.32	0.14	0.07	0.05	0.07	0.00	0.05	0.00	0.02	0.05	0.02
20	0.29	17.10	27.18	23.18	14.76	8.35	4.25	2.52	1.19	0.50	0.14	0.22	0.07	0.00	0.00	0.04	0.04	0.00	0.04	0.14
25	0.16	12.14	24.93	21.03	17.45	10.95	5.80	3.47	1.52	1.08	0.49	0.27	0.22	0.11	0.00	0.11	0.05	0.16	0.00	0.05
30	0.00	6.64	23.72	20.73	19.03	10.28	7.04	4.29	2.91	2.19	0.89	0.40	0.40	0.57	0.32	0.32	0.08	0.08	0.00	0.08
35	0.00	2.48	16.46	21.95	17.70	15.22	8.80	5.49	4.04	2.90	2.07	0.93	0.52	0.31	0.10	0.10	0.21	0.21	0.21	0.31
40	0.00	1.11	11.00	21.59	19.78	14.48	9.47	6.69	5.15	5.29	1.67	0.84	0.28	0.70	0.28	0.28	0.56	0.00	0.28	0.56
45	0.00	0.57	5.75	18.97	18.01	14.18	10.73	8.24	4.98	3.83	4.21	3.45	1.34	1.15	1.53	0.38	0.19	0.96	0.19	1.34
50	0.00	0.00	3.88	12.56	16.67	13.24	14.16	10.96	8.90	4.79	2.97	2.28	1.83	1.14	2.51	0.46	0.23	0.68	0.46	2.28
55	0.00	0.60	2.42	9.67	12.08	17.52	12.39	9.37	7.55	8.16	5.44	3.32	3.02	2.42	1.21	1.51	1.51	0.60	0.30	0.91
60	0.00	0.00	0.36	4.63	12.46	11.39	13.52	12.46	9.25	7.47	7.12	5.34	2.49	3.56	2.85	2.14	1.42	0.71	1.07	1.78
65	0.00	0.00	0.00	0.93	8.37	10.70	11.16	10.70	13.02	9.30	6.05	6.98	4.65	2.33	1.86	1.86	2.33	2.33	0.47	4.19
70	0.00	0.00	0.00	0.56	4.52	11.30	7.34	11.86	11.86	8.47	7.91	5.65	2.82	5.08	3.39	4.52	3.39	0.00	0.00	9.68
75	0.00	0.00	0.00	0.65	3.23	10.32	7.74	5.81	7.74	12.90	10.32	5.16	5.81	5.16	5.16	5.16	1.29	1.29	1.29	9.68
80	0.00	0.00	0.00	0.00	1.68	5.04	7.56	7.56	10.92	7.56	10.08	8.40	5.04	7.56	5.88	2.52	3.36	1.68	4.20	10.92
85	0.00	0.00	0.00	0.09	0.27	0.72	1.36	2.17	2.26	3.53	3.62	3.71	4.08	3.53	3.99	4.17	3.17	3.26	2.81	52.99
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY ACROSSWIND TURBULENCE INTENSITY(46 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TABLE L3-47

HOUR OF THE DAY		WIND SHEAR RANGE, METERS PER SECOND															
		>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0			
>=	<																
00	01	19.86	40.39	31.71	7.10	0.90	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
01	02	21.12	38.32	32.44	7.20	0.89	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
02	03	22.33	36.26	32.37	8.45	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
03	04	20.10	39.55	31.86	7.51	0.93	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
04	05	20.09	37.23	33.05	8.65	0.96	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
05	06	17.98	38.00	34.41	8.98	0.61	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
06	07	18.10	39.19	32.61	9.19	0.88	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
07	08	18.72	43.02	29.91	7.68	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
08	09	16.19	52.08	25.14	5.93	0.66	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
09	10	14.24	60.61	19.67	5.00	0.47	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	11	12.71	64.33	18.05	4.63	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	12	10.87	64.03	20.66	4.20	0.23	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	13	9.19	64.79	21.75	3.73	0.49	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13	14	9.62	63.59	23.41	3.07	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	15	7.47	63.61	25.22	3.35	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
15	16	7.69	63.72	25.09	3.30	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	17	6.46	61.87	28.48	2.90	0.28	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	18	6.81	55.66	32.45	4.61	0.44	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	19	10.38	48.80	34.59	5.67	0.47	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	20	12.15	41.34	37.73	8.33	0.44	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	21	14.48	38.24	36.82	9.69	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	22	15.43	39.56	34.40	9.88	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	23	18.67	38.69	33.92	8.07	0.61	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	24	20.39	39.69	31.42	7.67	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY		WIND SHEAR RANGE, METERS PER SECOND															
		>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
00	01	17.05	32.93	29.27	14.19	5.04	1.15	0.33	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01	02	18.26	31.25	28.86	15.01	4.76	1.69	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02	03	17.86	31.07	28.11	15.45	5.90	1.31	0.27	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
03	04	17.10	32.39	26.98	16.00	5.32	1.96	0.24	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
04	05	17.81	30.92	26.37	16.93	5.85	1.79	0.29	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
05	06	17.20	28.82	28.27	17.49	6.47	1.51	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
06	07	15.12	31.26	28.32	16.14	6.99	1.92	0.25	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07	08	15.71	34.62	28.47	13.43	6.29	1.36	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
08	09	12.89	42.91	26.52	11.47	5.00	1.04	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
09	10	12.64	49.92	22.85	9.11	4.22	1.14	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	11	11.96	52.42	22.70	8.50	3.71	0.63	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	12	9.95	53.84	25.01	7.22	3.28	0.67	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	13	10.13	52.53	25.95	7.54	3.00	0.75	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	14	9.40	51.60	27.96	8.06	2.48	0.49	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	15	8.53	50.80	29.15	8.41	2.73	0.36	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	16	7.62	50.76	31.11	7.82	2.30	0.35	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	17	6.42	46.89	35.33	8.39	2.35	0.49	0.09	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	18	6.56	43.06	34.65	11.59	3.14	0.75	0.10	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	19	9.66	37.36	34.57	13.37	4.17	0.69	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	20	11.48	31.91	32.36	18.15	5.22	0.77	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	21	13.76	28.97	31.09	19.34	5.53	1.14	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	22	13.15	31.80	29.79	17.06	6.69	1.42	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	23	16.19	29.89	31.09	15.50	6.03	1.00	0.27	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	24	16.78	33.23	29.56	13.55	5.23	1.51	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1985 - NOV, 1986.

TABLE E3-29

HOUR OF THE DAY	WIND SHEAR RANGE, METERS PER SECOND																9.0 10.0	8.0 9.0	7.0 8.0	6.0 7.0	5.0 6.0	4.0 5.0	3.0 4.0	2.0 3.0	1.0 2.0	0.0 1.0	>= <																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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00	01	21.01	71.34	7.27	0.35	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV,1986.

WIND SPEED RANGE (M/S)		WIND SHEAR RANGE, METERS PER SECOND																	
>	<=	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0							
>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
0.0	2.0	63.52	32.90	2.92	0.50	0.14	0.01	0.01	0.00	0.00	0.00	0.00							
2.0	4.0	35.64	55.70	7.39	1.09	0.17	0.01	0.00	0.00	0.00	0.00	0.00							
4.0	6.0	6.08	69.18	22.86	1.76	0.11	0.00	0.00	0.00	0.00	0.00	0.00							
6.0	8.0	1.51	58.28	37.32	2.81	0.07	0.00	0.00	0.00	0.00	0.00	0.00							
8.0	10.0	0.73	45.04	47.87	6.21	0.16	0.00	0.00	0.00	0.00	0.00	0.00							
10.0	12.0	0.53	28.75	57.50	12.84	0.38	0.00	0.00	0.00	0.00	0.00	0.00							
12.0	14.0	0.30	15.65	60.80	22.10	1.13	0.03	0.00	0.00	0.00	0.00	0.00							
14.0	16.0	0.19	8.61	55.63	33.13	2.41	0.03	0.00	0.00	0.00	0.00	0.00							
16.0	18.0	0.12	5.38	41.41	47.99	5.05	0.04	0.00	0.00	0.00	0.00	0.00							
18.0	20.0	0.00	2.01	27.32	59.27	11.27	0.14	0.00	0.00	0.00	0.00	0.00							
20.0	22.0	0.00	0.39	11.50	66.67	20.92	0.52	0.00	0.00	0.00	0.00	0.00							
22.0	24.0	0.00	0.00	3.47	63.19	32.29	1.04	0.00	0.00	0.00	0.00	0.00							
24.0	26.0	0.00	0.00	4.41	50.00	41.18	4.41	0.00	0.00	0.00	0.00	0.00							
26.0	28.0	0.00	0.00	0.00	25.00	66.67	8.33	0.00	0.00	0.00	0.00	0.00							
28.0	30.0	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00							
30.0	32.0																		
32.0	34.0																		
34.0	36.0																		
36.0	38.0																		
38.0	40.0																		
40.0	42.0																		
42.0	44.0																		
44.0	46.0																		
46.0	48.0																		
48.0	50.0																		

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
 BY WIND SPEED(9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	WIND SHEAR RANGE, METERS PER SECOND															
	>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
>	58.84	40.24	1.37	0.39	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<=	29.89	17.46	10.44	1.46	0.21	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.0	74.51	37.36	2.36	4.60	0.86	0.34	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.0	2.89	49.29	17.52	8.93	1.03	0.21	0.08	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	1.55	34.16	48.08	14.38	1.68	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	1.04	19.17	51.45	27.08	4.49	0.34	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	0.37	9.49	44.94	33.88	10.23	1.02	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	0.06	2.81	28.40	46.01	19.80	2.66	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	0.09	1.17	17.33	46.26	29.09	5.28	0.58	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	0.00	0.52	9.58	39.43	39.39	10.19	0.85	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	0.00	0.37	4.62	27.99	46.15	18.83	1.98	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	0.00	0.00	0.61	14.36	54.23	27.48	3.19	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.00	0.00	0.00	8.29	46.31	40.09	5.07	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.0	0.00	0.00	0.00	4.51	33.83	45.11	16.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	0.00	0.00	0.00	0.00	17.39	43.48	34.78	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.0	0.00	0.00	0.00	0.00	0.00	0.00	33.33	55.56	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
 BY WIND SPEED(30 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF " " ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-32

WIND SPEED RANGE (M/S)		WIND SHEAR RANGE, METERS PER SECOND																							
>	<=	>=	<	0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
				0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0
0.0	2.0	28.90	71.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	4.0	34.74	63.28	1.90	0.09	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	6.0	29.59	67.41	2.39	0.46	0.46	0.15	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	8.0	22.24	75.37	2.16	0.18	0.18	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	10.0	15.96	80.85	2.94	0.19	0.19	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	12.0	11.33	83.81	4.81	0.04	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	14.0	8.55	81.97	9.32	0.16	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	16.0	2.91	78.07	18.58	0.44	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	18.0	1.41	67.62	30.39	0.53	0.53	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	20.0	1.71	58.82	38.68	0.79	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	22.0	1.66	50.00	46.79	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	24.0	0.10	38.75	60.37	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	26.0	0.32	33.98	64.08	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	28.0	0.00	32.75	64.79	2.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	30.0	0.00	10.61	87.88	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	32.0	0.00	0.00	82.35	17.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	34.0	0.00	0.00	85.71	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	36.0	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	38.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
38.0	40.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40.0	42.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
42.0	44.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
44.0	46.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
46.0	48.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
48.0	50.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
 BY WIND SPEED(46 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP.1985 - NOV,1986.

TABLE E3-33

WIND DIRECTION RANGE (DEGREES)	>=	<	WIND SHEAR RANGE, METERS PER SECOND															
			>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	10.0	10.0	10.0
348	11	26.53	59.00	13.20	1.16	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	33.55	59.47	6.50	0.38	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	29.29	60.72	9.36	0.53	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	12.71	52.87	30.30	4.00	0.12	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	101	18.41	44.22	28.61	7.60	1.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	123	33.54	41.29	18.39	6.16	0.56	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	146	35.94	46.14	13.94	3.40	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	168	42.34	44.55	9.26	2.61	0.91	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	191	8.47	17.50	19.57	26.34	19.99	7.05	1.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	213	6.40	25.62	30.42	24.54	10.48	2.27	0.26	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213	236	7.60	35.57	36.01	17.34	3.17	0.28	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	258	5.73	38.84	40.96	13.03	1.15	0.12	0.05	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258	281	6.74	42.92	39.40	10.20	0.65	0.01	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281	303	16.56	56.64	22.21	3.79	0.66	0.11	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303	326	24.83	57.96	14.87	2.27	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	18.68	48.13	25.30	7.06	0.82	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
BY WIND DIRECTION(30 METERS) RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	WIND SHEAR RANGE, METERS PER SECOND																									
	>=		<		0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
348 11	26.79	72.40	0.65	0.10	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 33	31.09	68.48	0.37	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 56	35.04	64.21	0.60	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56 78	27.01	72.45	0.49	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78 101	36.45	60.57	2.81	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101 123	49.54	47.99	2.04	0.27	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123 146	33.06	62.81	3.20	0.64	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146 168	33.29	61.96	3.62	1.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168 191	11.17	68.82	19.36	0.60	0.05	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191 213	12.20	68.75	18.41	0.59	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213 236	16.71	77.49	5.64	0.15	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236 258	14.35	82.46	2.98	0.14	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
258 281	16.81	80.67	2.40	0.07	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281 303	23.69	74.93	1.32	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303 326	25.64	73.34	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326 348	19.68	78.96	1.19	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
BY WIND DIRECTION(46 METERS) RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

MAXIMUM WIND SHEAR (M/S)		WIND SHEAR RANGE, METERS PER SECOND															
>	=	<	>=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
83.16	11.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.17	33.45	2.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.19	31.07	17.32	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.08	16.78	30.54	7.81	1.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.26	5.19	26.59	15.63	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.10	1.38	14.45	24.05	7.17	7.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.36	5.83	22.41	10.81	3.85	66.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.10	2.15	15.29	19.19	23.08	33.33	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.04	0.60	8.18	21.41	3.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.01	0.19	3.46	17.58	23.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.05	1.28	10.30	11.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.02	0.45	4.14	3.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.01	0.13	1.72	23.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.10	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.03	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF MAXIMUM WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS) BY
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP, 1985 - NOV, 1986.

MAXIMUM WIND SHEAR (M/S)		WIND SHEAR RANGE, METERS PER SECOND																					
>	=<	0.0		1.0		2.0		3.0		4.0		5.0		6.0		7.0		8.0		9.0		10.0	
		>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<	>=	<
0.0	1.0	52.46	10.04	0.94	0.84	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.0	2.0	15.87	27.23	1.37	0.31	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	3.0	9.20	29.74	9.55	0.59	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3.0	4.0	8.54	20.24	22.86	3.64	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	5.0	4.38	8.29	26.38	7.97	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	6.0	2.85	2.92	19.28	14.27	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	7.0	1.92	1.00	10.52	19.69	6.86	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	8.0	2.03	0.35	5.20	19.65	9.53	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	9.0	1.53	0.13	2.34	14.36	13.22	17.39	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	10.0	0.71	0.05	0.94	9.41	20.08	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	11.0	0.36	0.02	0.39	4.98	17.62	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11.0	12.0	0.10	0.00	0.13	2.54	11.99	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	13.0	0.05	0.00	0.06	1.14	8.30	34.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13.0	14.0	0.01	0.00	0.03	0.43	3.89	8.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	15.0	0.00	0.00	0.00	0.17	0.92	4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

PERCENT FREQUENCY DISTRIBUTION OF MAXIMUM WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) BY
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

MAXIMUM WIND SHEAR (M/S)			WIND SHEAR RANGE, METERS PER SECOND																							
>	=	<	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0											9.0	10.0	
					1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0											9.0	10.0
0.0	1.0		50.42	18.24	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
1.0	2.0		34.18	33.35	1.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
2.0	3.0		11.43	27.19	9.73	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
3.0	4.0		3.08	13.99	24.04	34.46	48.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
4.0	5.0		0.66	5.06	27.66	16.10	24.14	40.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
5.0	6.0		0.15	1.54	19.78	13.28	13.79	20.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
6.0	7.0		0.04	0.43	9.96	10.45	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
7.0	8.0		0.01	0.11	4.16	9.32	1.72	20.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
8.0	9.0		0.02	0.04	1.70	7.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
9.0	10.0		0.00	0.02	0.60	2.54	1.72	20.00	99.99	0.00	0.00	0.00	0.00	0.00											0.00	0.00
10.0	11.0		0.00	0.01	0.23	1.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	99.99
11.0	12.0		0.00	0.00	0.10	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
12.0	13.0		0.00	0.00	0.11	0.28	3.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
13.0	14.0		0.00	0.00	0.00	0.02	1.13	3.45	0.00	0.00	0.00	0.00	0.00	0.00											0.00	0.00
14.0	15.0		0.00	0.00	0.04	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											99.99	99.99

PERCENT FREQUENCY DISTRIBUTION OF MAXIMUM WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS) BY
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-39

WIND SHEAR RANGE (M/S)	TURBULENCE INTENSITY RANGE, PERCENT																			
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
<	11.74	41.62	22.00	9.81	4.87	2.65	1.52	0.95	0.98	0.63	0.47	0.43	0.26	0.21	0.17	0.11	0.13	0.12	0.08	1.25
0 0	7.63	45.70	27.75	9.83	4.01	1.82	0.93	0.55	0.32	0.20	0.16	0.15	0.11	0.07	0.06	0.06	0.07	0.04	0.06	0.49
1 0	8.08	53.20	27.96	6.59	2.17	0.84	0.38	0.22	0.17	0.09	0.06	0.03	0.02	0.02	0.02	0.03	0.01	0.01	0.01	0.11
2 0	7.67	56.00	26.64	6.29	1.78	0.75	0.30	0.15	0.14	0.08	0.07	0.04	0.01	0.02	0.01	0.01	0.01	0.00	0.02	0.04
3 0	4.54	53.61	29.88	8.85	2.31	0.64	0.54	0.14	0.14	0.04	0.10	0.02	0.02	0.04	0.00	0.02	0.00	0.00	0.00	0.06
4 0	2.95	50.29	30.79	9.45	2.86	1.15	0.49	0.58	0.08	0.16	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
5 0	0.59	34.71	40.59	14.12	5.29	0.59	2.35	1.18	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6 0	2.41	51.85	33.33	7.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7 0	16.67	50.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8 0																				
9 0																				
10 0																				
11 0																				

PERCENT FREQUENCY DISTRIBUTION OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY
WIND SHEAR RANGES(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-40;

WIND SHEAR RANGE		TURBULENCE INTENSITY RANGE, PERCENT																			
M	FEET	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	>=95
0.0	0.0	3.31	24.44	21.27	14.48	9.59	6.44	4.11	3.00	1.95	1.54	1.13	0.76	0.64	0.61	0.53	0.39	0.32	0.28	0.23	1.93
1.0	1.0	5.08	36.14	25.65	12.15	6.33	3.54	2.18	1.45	0.99	0.69	0.49	0.41	0.27	0.21	0.16	0.13	0.16	0.11	0.09	0.77
2.0	2.0	7.13	51.49	25.39	7.35	2.48	1.21	0.62	0.38	0.23	0.16	0.11	0.11	0.06	0.03	0.04	0.03	0.03	0.03	0.02	0.10
3.0	3.0	9.02	61.62	19.30	4.19	1.71	0.81	0.53	0.26	0.16	0.15	0.07	0.52	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.04
4.0	4.0	7.31	70.06	18.33	3.71	1.57	0.88	0.52	0.26	0.10	0.10	0.04	0.02	0.04	0.00	0.02	0.00	0.02	0.00	0.00	0.02
5.0	5.0	7.31	72.33	11.90	4.11	2.05	1.31	0.49	0.16	0.25	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	6.0	1.76	60.59	25.29	6.47	2.35	1.18	1.76	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	7.0	14.81	56.56	29.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	8.0	10.67	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9.0	9.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
10.0	10.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

PERCENT FREQUENCY DISTRIBUTION OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY
WIND SHEAR RANGES(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E3-41

Section 4

Cumulative Percent Frequency Arrays

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HOUR OF THE DAY		TURBULENCE INTENSITY, PERCENT																				
		<	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
00	01		99.99	90.89	46.12	16.63	7.84	4.61	3.15	2.36	1.98	1.58	1.30	1.13	0.98	0.90	0.80	0.76	0.69	0.68	0.62	0.54
01	02		99.99	91.47	46.24	17.20	7.84	4.41	2.91	1.93	1.67	1.32	1.08	0.96	0.82	0.72	0.66	0.60	0.54	0.52	0.48	0.40
02	03		99.99	92.39	47.33	17.36	8.00	4.82	3.41	2.52	1.98	1.64	1.46	1.27	1.22	1.12	1.00	0.91	0.84	0.79	0.77	0.70
03	04		99.99	92.03	48.94	17.23	8.35	4.74	3.20	2.41	1.88	1.57	1.35	1.12	1.05	0.91	0.86	0.74	0.71	0.64	0.61	0.60
04	05		99.99	92.86	48.87	17.35	7.80	4.19	2.76	2.09	1.60	1.30	1.15	1.01	0.93	0.82	0.77	0.73	0.60	0.57	0.52	0.47
05	06		99.99	92.88	49.36	16.81	7.76	4.16	2.56	1.93	1.53	1.18	1.05	0.89	0.79	0.72	0.67	0.62	0.59	0.59	0.55	0.53
06	07		99.99	94.73	51.11	17.74	7.64	4.44	2.87	2.03	1.58	1.38	1.14	0.99	0.84	0.68	0.63	0.57	0.52	0.44	0.44	0.37
07	08		99.99	96.50	55.37	18.71	7.77	4.44	3.08	2.28	1.74	1.33	1.14	0.99	0.85	0.81	0.75	0.73	0.66	0.63	0.60	0.55
08	09		99.99	98.41	59.51	18.69	7.53	3.67	2.09	1.47	1.17	0.88	0.71	0.61	0.54	0.53	0.48	0.41	0.34	0.31	0.31	0.31
09	10		99.99	98.74	64.71	22.47	8.87	4.55	2.62	1.81	1.32	1.03	0.86	0.67	0.56	0.52	0.48	0.42	0.41	0.39	0.38	0.37
10	11		99.99	99.42	67.18	25.02	9.94	4.90	2.90	1.94	1.55	1.31	1.10	1.04	0.94	0.88	0.79	0.73	0.69	0.61	0.59	0.50
11	12		99.99	99.22	76.36	26.21	10.10	4.54	2.56	1.81	1.30	1.04	0.81	0.69	0.61	0.57	0.51	0.47	0.42	0.38	0.35	0.35
12	13		99.99	99.46	72.20	27.82	9.95	4.51	2.31	1.41	0.95	0.75	0.66	0.62	0.55	0.50	0.46	0.43	0.36	0.32	0.31	0.31
13	14		99.99	99.35	71.68	28.63	10.69	4.90	2.97	1.97	1.39	1.06	0.88	0.78	0.69	0.63	0.63	0.58	0.50	0.45	0.42	0.42
14	15		99.99	99.38	70.72	25.87	9.89	4.38	2.24	1.44	0.98	0.73	0.58	0.41	0.38	0.32	0.28	0.25	0.22	0.20	0.18	0.16
15	16		99.99	99.20	66.85	23.91	9.10	3.93	2.19	1.37	1.00	0.77	0.71	0.60	0.54	0.46	0.45	0.42	0.37	0.32	0.30	0.25
16	17		99.99	98.50	62.19	19.83	8.19	2.53	1.55	0.98	0.70	0.50	0.34	0.30	0.26	0.22	0.18	0.16	0.14	0.12	0.12	0.11
17	18		99.99	99.75	53.95	14.72	5.12	2.22	1.33	0.94	0.69	0.56	0.46	0.39	0.37	0.30	0.27	0.22	0.20	0.16	0.16	0.14
18	19		99.99	93.01	47.81	12.84	4.17	1.92	1.12	0.76	0.56	0.46	0.37	0.27	0.25	0.21	0.18	0.16	0.12	0.10	0.09	0.09
19	20		99.99	92.02	45.63	12.54	4.85	2.39	1.40	0.94	0.71	0.56	0.45	0.39	0.34	0.31	0.27	0.23	0.22	0.21	0.18	0.18
20	21		99.99	91.98	45.61	13.20	5.13	2.96	1.74	1.26	0.93	0.76	0.59	0.56	0.52	0.50	0.42	0.42	0.38	0.35	0.30	0.29
21	22		99.99	92.74	47.16	14.46	6.12	3.50	2.27	1.64	1.36	1.07	0.97	0.87	0.74	0.69	0.63	0.55	0.53	0.48	0.44	0.39
22	23		99.99	92.63	48.20	15.62	6.92	3.86	2.71	1.95	1.50	1.17	1.04	0.86	0.74	0.64	0.55	0.49	0.39	0.34	0.34	0.34
23	24		99.99	91.90	47.79	16.88	7.49	4.17	3.01	2.31	1.81	1.47	1.18	1.07	0.98	0.92	0.85	0.80	0.71	0.67	0.60	0.54

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

HOUR OF THE DAY	TURBULENCE INTENSITY, PERCENT																			
	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
00	99.99	86.04	38.12	14.64	7.37	4.23	2.96	2.25	1.83	1.36	1.16	0.91	0.74	0.65	0.55	0.54	0.52	0.49	0.47	0.44
01	99.99	86.14	37.00	14.38	6.44	3.57	2.53	1.80	1.33	0.99	0.67	0.55	0.44	0.37	0.32	0.29	0.25	0.23	0.22	0.18
02	99.99	87.75	36.50	14.03	7.64	4.96	3.68	2.84	2.36	1.96	1.69	1.39	1.26	1.03	0.95	0.93	0.86	0.74	0.69	0.60
03	99.99	87.14	38.09	15.29	7.77	4.96	3.97	2.79	2.30	1.94	1.65	1.38	1.09	0.93	0.86	0.86	0.79	0.63	0.61	0.58
04	99.99	87.71	38.34	16.00	7.95	4.62	3.12	2.28	1.82	1.62	1.39	1.22	1.06	0.92	0.85	0.79	0.71	0.69	0.67	0.63
05	99.99	88.27	40.32	17.10	9.15	5.78	3.89	2.90	2.35	1.86	1.57	1.33	1.23	1.05	0.98	0.85	0.79	0.71	0.62	0.55
06	99.99	91.23	41.51	17.25	9.33	6.10	4.38	3.46	2.73	2.33	2.00	1.70	1.41	1.30	1.22	1.04	1.01	0.90	0.82	0.76
07	99.99	93.06	42.58	18.50	7.69	4.89	3.44	2.66	2.08	1.68	1.35	1.10	0.91	0.79	0.70	0.68	0.65	0.59	0.58	0.56
08	99.99	95.21	44.88	18.57	6.97	4.15	2.74	2.11	1.67	1.16	0.95	0.80	0.73	0.61	0.56	0.46	0.46	0.44	0.37	0.34
09	99.99	96.78	48.86	17.79	8.02	4.44	2.82	2.00	1.51	1.15	1.09	0.90	0.78	0.75	0.70	0.61	0.49	0.45	0.42	0.37
10	99.99	97.40	52.06	20.42	8.88	4.61	2.92	1.99	1.60	1.34	1.14	1.02	0.90	0.83	0.70	0.68	0.63	0.60	0.52	0.47
11	99.99	97.09	53.00	19.70	8.62	4.45	2.76	1.77	1.19	0.87	0.72	0.60	0.51	0.46	0.44	0.44	0.41	0.39	0.32	0.26
12	99.99	97.39	54.64	20.27	8.33	4.19	2.33	1.54	1.12	0.90	0.78	0.73	0.61	0.56	0.44	0.42	0.39	0.36	0.34	0.29
13	99.99	97.67	54.41	19.73	9.05	4.96	2.95	2.08	1.47	1.11	0.96	0.76	0.64	0.56	0.52	0.49	0.47	0.47	0.42	0.39
14	99.99	97.70	52.04	19.50	8.94	4.48	2.52	1.70	1.21	0.94	0.68	0.61	0.56	0.51	0.46	0.44	0.34	0.31	0.29	0.26
15	99.99	97.04	50.39	17.38	7.72	3.98	2.32	1.60	1.31	1.06	0.92	0.79	0.74	0.69	0.67	0.60	0.57	0.54	0.49	0.46
16	99.99	95.61	45.03	14.96	6.44	3.32	1.96	1.41	1.11	0.90	0.75	0.70	0.56	0.45	0.42	0.35	0.30	0.28	0.28	0.28
17	99.99	93.92	38.91	12.02	5.01	2.37	1.60	1.14	0.89	0.69	0.51	0.46	0.43	0.36	0.35	0.30	0.26	0.23	0.23	0.21
18	99.99	91.35	34.73	11.04	4.46	2.44	1.49	1.08	0.82	0.69	0.62	0.52	0.41	0.38	0.38	0.38	0.36	0.34	0.33	0.29
19	99.99	87.44	33.20	10.82	5.05	2.70	1.79	1.29	0.93	0.70	0.51	0.42	0.41	0.28	0.28	0.28	0.26	0.24	0.23	0.23
20	99.99	86.63	34.08	11.66	5.42	3.14	2.12	1.56	1.24	0.99	0.80	0.73	0.62	0.62	0.55	0.50	0.46	0.37	0.36	0.29
21	99.99	86.63	36.31	12.54	5.83	3.57	2.47	1.92	1.66	1.28	1.10	0.93	0.80	0.71	0.60	0.57	0.50	0.45	0.42	0.37
22	99.99	89.43	36.40	13.03	6.46	3.75	2.54	1.81	1.52	1.21	1.03	0.90	0.81	0.77	0.67	0.59	0.49	0.44	0.39	0.34
23	99.99	88.07	39.69	15.58	6.21	5.38	3.79	2.88	2.35	1.80	1.64	1.41	1.14	1.08	0.99	0.86	0.76	0.66	0.65	0.58
24	99.99	88.07	39.69	15.58	6.21	5.38	3.79	2.88	2.35	1.80	1.64	1.41	1.14	1.08	0.99	0.86	0.76	0.66	0.65	0.58

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY	<	TURBULENCE INTENSITY PERCENT																>=90	>=95	
		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75			>=80	>=85
00	01	99.99	85.53	37.90	16.06	6.05	4.80	3.43	2.45	1.81	1.51	1.17	1.07	0.98	0.91	0.79	0.76	0.71	0.62	0.56
01	02	99.99	84.21	37.24	15.20	7.08	4.36	2.70	2.12	1.62	1.38	1.12	0.85	0.72	0.65	0.57	0.54	0.50	0.46	0.41
02	03	99.99	84.99	36.40	14.53	7.74	4.70	3.45	2.51	2.08	1.81	1.42	1.25	1.13	0.99	0.93	0.75	0.69	0.63	0.56
03	04	99.99	85.98	36.85	15.65	8.41	5.46	3.71	3.03	2.28	1.83	1.51	1.22	1.06	0.97	0.86	0.80	0.77	0.71	0.64
04	05	99.99	85.31	36.96	16.59	8.76	5.07	3.63	2.67	2.08	1.70	1.52	1.34	1.21	1.11	0.90	0.79	0.71	0.68	0.61
05	06	99.99	86.46	37.30	17.36	9.16	5.61	3.87	2.83	2.23	1.79	1.49	1.28	1.11	0.98	0.77	0.69	0.65	0.62	0.51
06	07	99.99	88.08	37.86	17.24	9.22	5.91	4.24	3.20	2.61	2.23	1.74	1.64	1.50	1.36	1.17	1.02	0.92	0.86	0.82
07	08	99.99	89.43	39.01	15.88	7.47	4.40	3.22	2.30	1.78	1.50	1.22	0.98	0.91	0.77	0.71	0.65	0.49	0.48	0.42
08	09	99.99	83.08	41.07	15.82	7.77	4.40	3.22	2.30	1.78	1.50	1.22	0.98	0.91	0.77	0.71	0.65	0.49	0.48	0.42
09	10	99.99	85.40	45.26	17.92	7.77	4.53	3.11	2.41	2.04	1.74	1.46	1.28	1.03	0.96	0.86	0.76	0.67	0.58	0.45
10	11	99.99	87.02	46.17	17.96	7.72	4.07	2.83	1.96	1.51	1.19	1.01	0.91	0.81	0.73	0.66	0.57	0.56	0.53	0.50
11	12	99.99	95.64	46.19	17.87	6.92	3.45	2.19	1.63	1.30	1.08	0.90	0.76	0.65	0.56	0.55	0.50	0.46	0.43	0.40
12	13	99.99	95.98	46.60	16.71	6.64	3.27	2.85	1.93	0.97	0.84	0.70	0.63	0.57	0.51	0.50	0.47	0.45	0.44	0.40
13	14	99.99	96.14	47.58	16.56	7.45	3.76	2.19	1.59	1.33	1.04	0.84	0.74	0.66	0.62	0.59	0.51	0.42	0.36	0.32
14	15	99.99	98.17	45.11	16.13	6.88	5.44	3.44	1.43	1.14	0.90	0.77	0.67	0.55	0.49	0.42	0.38	0.32	0.29	0.24
15	16	99.99	98.01	42.79	14.34	6.76	3.10	1.96	1.44	1.18	0.96	0.86	0.76	0.68	0.62	0.57	0.56	0.46	0.46	0.39
16	17	99.99	93.06	38.37	12.54	6.78	2.58	1.61	1.02	0.83	0.66	0.50	0.45	0.40	0.37	0.31	0.27	0.24	0.22	0.19
17	18	99.99	89.43	32.90	10.59	4.32	2.10	1.27	1.15	1.01	0.78	0.60	0.43	0.38	0.37	0.33	0.30	0.26	0.24	0.23
18	19	99.99	86.92	31.00	10.90	4.93	2.65	1.67	1.28	0.97	0.83	0.73	0.64	0.51	0.44	0.37	0.34	0.31	0.29	0.26
19	20	99.99	83.20	31.57	11.80	5.26	2.99	1.48	1.42	1.09	0.81	0.67	0.60	0.48	0.43	0.38	0.34	0.31	0.27	0.21
20	21	99.99	84.80	33.02	12.18	6.64	3.16	2.38	1.58	1.24	0.94	0.81	0.66	0.56	0.51	0.47	0.43	0.38	0.34	0.30
21	22	99.99	85.56	36.15	13.92	6.12	3.51	3.34	1.78	1.39	1.19	0.92	0.75	0.62	0.57	0.51	0.45	0.38	0.37	0.31
22	23	99.99	87.19	38.59	15.38	7.51	4.51	3.20	2.36	1.84	1.51	1.28	1.09	0.93	0.83	0.76	0.74	0.66	0.60	0.53
23	24	99.99	86.55	39.39	15.03	6.35	5.35	3.16	2.16	2.54	2.03	1.70	1.39	1.20	1.13	1.07	0.96	0.88	0.77	0.64

CUMULATIVE PERCENT FREQUENCY OF ALONHWIND TURBULENCE INTENSITY(46 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

HOUR OF THE DAY	>=	TURBULENCE INTENSITY, PERCENT																			
		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
00	01	99.99	94.98	50.96	24.16	14.92	10.39	7.73	5.84	4.50	3.63	3.04	2.62	2.22	1.93	1.59	1.45	1.26	1.12	1.01	0.89
01	02	99.99	95.91	52.95	25.80	15.63	10.31	7.63	5.74	4.64	3.80	2.95	2.50	2.13	1.82	1.56	1.34	1.10	0.90	0.82	0.77
02	03	99.99	95.99	53.53	27.10	16.81	11.35	8.22	6.22	4.93	3.83	3.17	2.64	2.25	1.84	1.58	1.44	1.31	1.18	1.10	1.00
03	04	99.99	95.82	53.00	26.58	16.34	11.19	6.16	6.34	4.99	4.03	3.42	2.90	2.48	2.21	1.88	1.68	1.44	1.25	1.13	1.05
04	05	99.99	96.02	53.33	26.26	16.31	10.62	7.53	5.72	4.42	3.42	2.72	2.23	1.87	1.51	1.29	1.20	1.09	0.97	0.88	0.77
05	06	99.99	95.87	50.98	23.43	13.77	9.15	6.37	4.62	3.62	2.82	2.32	1.87	1.60	1.35	1.18	1.08	0.98	0.92	0.83	0.77
06	07	99.99	97.33	54.17	25.64	15.18	10.20	7.23	5.04	4.04	3.46	2.89	2.25	2.02	1.70	1.44	1.25	1.14	0.99	0.95	0.79
07	08	99.99	97.79	57.50	27.01	16.60	10.57	7.33	5.28	4.04	3.21	2.58	2.14	1.73	1.49	1.29	1.19	1.08	0.96	0.88	0.81
08	09	99.99	99.31	60.98	28.91	16.90	10.76	7.62	5.20	3.84	3.02	2.35	1.79	1.49	1.33	1.13	0.92	0.81	0.73	0.60	0.53
09	10	99.99	99.27	65.85	30.84	17.66	11.19	8.07	5.85	4.43	3.31	2.59	2.04	1.67	1.33	1.09	0.98	0.79	0.72	0.58	0.49
10	11	99.99	99.42	68.58	34.35	19.85	12.85	8.79	6.25	4.59	3.66	3.12	2.59	2.22	1.89	1.58	1.44	1.21	1.05	0.89	0.75
11	12	99.99	99.15	59.55	34.12	17.98	11.26	7.46	5.22	3.64	2.79	2.28	1.88	1.54	1.28	1.12	0.93	0.84	0.72	0.66	0.61
12	13	99.99	99.30	71.42	34.21	17.57	9.84	6.24	4.16	2.88	2.19	1.74	1.48	1.26	0.99	0.86	0.75	0.63	0.58	0.50	0.47
13	14	99.99	99.30	71.85	34.16	16.43	9.46	6.41	4.53	3.51	2.81	2.31	1.85	1.62	1.33	1.11	0.94	0.81	0.69	0.52	0.45
14	15	99.99	98.94	71.13	30.67	14.10	8.18	5.57	3.76	2.71	1.98	1.48	1.19	1.00	0.84	0.71	0.57	0.53	0.46	0.36	0.34
15	16	99.99	99.40	67.66	27.49	13.16	7.49	4.96	3.60	2.94	2.38	1.86	1.52	1.33	1.14	0.91	0.72	0.60	0.56	0.55	0.47
16	17	99.99	99.83	62.07	23.13	10.27	5.41	3.53	2.57	1.83	1.34	1.00	0.88	0.77	0.63	0.46	0.41	0.39	0.32	0.29	0.25
17	18	99.99	97.47	52.71	17.74	8.50	4.69	3.16	2.22	1.53	1.25	1.00	0.89	0.76	0.63	0.51	0.44	0.39	0.35	0.31	0.25
18	19	99.99	96.58	45.60	15.84	7.71	4.69	3.33	2.29	1.49	1.20	0.95	0.80	0.61	0.52	0.41	0.30	0.27	0.24	0.21	0.21
19	20	99.99	95.45	42.93	15.66	8.97	5.59	3.95	2.86	2.29	1.60	1.38	1.08	0.95	0.87	0.70	0.60	0.49	0.43	0.34	0.29
20	21	99.99	95.02	43.66	17.47	10.14	6.93	4.67	3.63	2.77	2.10	1.68	1.42	1.12	0.92	0.83	0.79	0.71	0.63	0.56	0.47
21	22	99.99	95.64	46.15	20.07	11.63	7.58	5.39	3.98	3.08	2.52	2.06	1.72	1.53	1.37	1.10	0.90	0.80	0.77	0.69	0.61
22	23	99.99	96.88	49.50	23.60	14.36	9.84	7.00	5.36	4.05	3.21	2.51	1.99	1.67	1.46	1.20	1.02	0.87	0.79	0.69	0.64
23	24	99.99	96.69	52.10	24.44	15.03	10.61	7.72	5.90	4.70	3.69	3.17	2.65	2.12	1.89	1.47	1.34	1.22	1.09	1.01	0.96

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

HOUR OF THE DAY		TURBULENCE INTENSITY, PERCENT																			
		>=	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
00	01	99.99	90.44	44.08	23.99	14.37	9.69	7.20	5.56	4.18	3.54	2.82	2.38	2.05	1.81	1.54	1.38	1.13	0.94	0.81	0.77
01	02	99.99	96.44	45.87	25.02	15.27	9.83	6.53	4.46	3.34	2.55	2.03	1.63	1.33	1.04	0.94	0.79	0.59	0.59	0.50	0.40
02	03	99.99	91.17	45.58	25.06	15.62	10.41	7.71	5.78	4.53	3.74	3.10	2.75	2.41	2.07	1.86	1.58	1.36	1.21	1.07	0.96
03	04	99.99	90.78	45.99	25.54	15.96	10.97	7.94	5.87	4.47	3.71	3.14	2.52	2.17	1.96	1.84	1.58	1.37	1.21	1.07	0.89
04	05	99.99	92.19	45.33	24.64	15.24	10.46	7.56	5.31	3.79	2.91	2.40	2.10	1.78	1.57	1.36	1.22	1.13	1.02	0.88	0.85
05	06	99.99	91.11	45.81	25.32	15.82	10.68	7.89	6.01	4.63	3.75	2.97	2.33	1.92	1.72	1.50	1.28	1.21	1.00	0.94	0.93
06	07	99.99	93.04	46.52	26.62	17.11	12.00	8.88	6.93	5.37	4.57	3.68	3.14	2.67	2.31	2.06	1.72	1.53	1.32	1.20	1.09
07	08	99.99	93.95	48.04	26.17	17.00	11.65	8.06	5.92	4.47	3.58	2.90	2.27	1.90	1.62	1.40	1.29	1.12	0.86	0.77	0.66
08	09	99.99	96.24	50.22	26.76	16.79	11.69	8.30	6.03	4.44	3.47	2.79	2.19	1.75	1.44	1.19	1.07	0.94	0.87	0.68	0.56
09	10	99.99	91.96	47.07	27.07	16.83	11.16	7.73	5.72	4.41	3.34	2.61	1.98	1.66	1.39	1.14	0.98	0.93	0.81	0.70	0.64
10	11	99.99	97.28	56.19	30.97	18.98	11.59	7.76	5.43	4.09	3.14	2.45	2.04	1.82	1.57	1.40	1.15	0.97	0.87	0.80	0.71
11	12	99.99	96.42	56.71	28.73	16.54	10.16	6.58	4.55	3.53	2.79	2.16	1.79	1.50	1.21	1.02	0.89	0.72	0.60	0.51	0.43
12	13	99.99	97.22	58.90	28.42	15.02	8.57	5.52	3.67	2.95	2.19	1.77	1.51	1.22	1.04	0.90	0.71	0.61	0.51	0.49	0.41
13	14	99.99	97.65	60.69	27.82	14.79	8.96	5.96	4.42	3.31	2.60	2.04	1.60	1.28	1.11	0.93	0.83	0.74	0.59	0.54	0.44
14	15	99.99	97.53	59.47	26.03	13.51	7.89	5.31	3.66	2.73	2.08	1.72	1.35	1.14	0.96	0.82	0.70	0.61	0.58	0.48	0.42
15	16	99.99	91.53	51.58	24.70	12.04	7.61	5.10	3.85	2.44	2.30	1.96	1.73	1.46	1.23	1.07	0.96	0.73	0.72	0.65	0.55
16	17	99.99	96.16	50.00	19.51	9.87	6.25	4.52	3.22	2.41	1.91	1.46	1.25	0.93	0.83	0.65	0.61	0.52	0.42	0.32	0.19
17	18	99.99	95.66	41.17	15.40	8.08	5.09	3.63	2.65	2.09	1.57	1.15	1.01	0.79	0.69	0.52	0.53	0.53	0.48	0.30	0.31
18	19	99.99	93.12	37.64	15.12	6.01	5.06	3.13	2.33	1.75	1.34	1.10	0.92	0.82	0.72	0.57	0.54	0.51	0.44	0.38	0.31
19	20	99.99	91.36	34.57	15.00	8.54	5.34	3.67	2.72	2.09	1.68	1.30	1.03	0.83	0.67	0.55	0.47	0.42	0.37	0.29	0.28
20	21	99.99	88.72	34.30	16.28	10.08	6.51	4.43	3.27	2.52	1.94	1.64	1.34	1.11	0.98	0.77	0.67	0.59	0.57	0.49	0.40
21	22	99.99	96.01	36.43	16.82	10.11	7.33	4.87	3.88	2.99	2.40	2.00	1.61	1.33	1.17	1.04	0.88	0.84	0.73	0.67	0.58
22	23	99.99	91.02	40.63	20.85	12.87	8.52	6.30	4.69	3.36	2.51	1.99	1.68	1.37	1.14	0.96	0.85	0.70	0.64	0.52	0.55
23	24	99.99	91.20	46.25	24.93	15.83	10.67	7.78	5.79	4.75	3.82	3.03	2.58	2.08	1.75	1.64	1.41	1.27	1.19	1.04	0.94

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

TABLE 14

HOUR OF THE DAY		TURBULENCE INTENSITY, PERCENT																>=90				
		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75			>=80	>=85	
00	01	99	99	87.38	43.79	24.66	16.12	10.94	8.08	6.28	5.24	4.31	3.61	2.84	2.40	2.03	1.75	1.43	1.25	1.04	0.92	0.83
01	02	99	99	88.81	45.48	26.34	16.06	11.02	7.51	5.42	4.16	3.16	2.64	2.17	1.75	1.44	1.09	0.97	0.82	0.71	0.65	0.59
02	03	99	99	87.81	43.23	24.83	16.13	11.16	8.06	6.01	4.76	3.95	3.07	2.59	2.32	1.91	1.66	1.48	1.33	1.11	0.99	0.95
03	04	99	99	89.14	44.31	24.76	16.75	12.06	8.69	6.61	4.98	4.21	3.49	2.84	2.31	1.92	1.54	1.37	1.13	1.01	0.91	0.86
04	05	99	99	87.81	43.88	24.66	15.21	10.53	7.54	5.77	4.48	3.55	2.76	2.28	2.00	1.73	1.50	1.31	1.21	1.03	0.88	0.76
05	06	99	99	86.43	42.36	25.01	16.25	11.38	8.29	6.36	4.94	3.91	3.19	2.47	1.99	1.75	1.52	1.32	1.20	1.10	0.98	0.83
06	07	99	99	89.40	45.12	24.85	16.34	11.93	8.84	7.05	5.44	4.34	3.70	3.00	2.61	2.12	1.88	1.65	1.47	1.30	1.18	1.06
07	08	99	99	87.71	43.10	25.06	17.36	12.18	9.08	6.45	4.92	3.83	3.02	2.51	2.14	1.81	1.52	1.32	1.16	1.01	0.98	0.80
08	09	99	99	86.25	42.71	25.18	16.95	11.85	8.80	6.42	4.96	3.98	3.13	2.65	2.25	1.97	1.73	1.47	1.34	1.22	1.01	0.92
09	10	99	99	85.37	42.15	25.71	16.89	11.07	7.66	5.56	4.12	3.18	2.62	2.16	1.73	1.35	1.22	1.10	0.97	0.87	0.75	0.71
10	11	99	99	85.37	42.15	25.71	16.89	11.07	7.66	5.56	4.12	3.18	2.62	2.16	1.73	1.35	1.22	1.10	0.97	0.87	0.75	0.71
11	12	99	99	84.92	41.40	25.89	15.07	9.85	6.62	4.62	3.45	2.68	2.12	1.72	1.39	1.23	1.02	0.90	0.74	0.64	0.59	0.56
12	13	99	99	84.92	41.40	25.89	15.07	9.85	6.62	4.62	3.45	2.68	2.12	1.72	1.39	1.23	1.02	0.90	0.74	0.64	0.60	0.51
13	14	99	99	86.01	43.09	25.82	13.79	8.12	5.19	3.58	2.71	2.18	1.69	1.42	1.16	1.00	0.85	0.78	0.69	0.64	0.60	0.51
14	15	99	99	86.01	43.09	25.82	13.79	8.12	5.19	3.58	2.71	2.18	1.69	1.42	1.16	1.00	0.85	0.78	0.69	0.64	0.60	0.51
15	16	99	99	84.77	43.10	25.81	11.54	7.22	4.92	3.41	2.59	2.16	1.66	1.35	1.14	1.03	0.85	0.72	0.65	0.56	0.49	0.46
16	17	99	99	84.77	43.10	25.81	11.54	7.22	4.92	3.41	2.59	2.16	1.66	1.35	1.14	1.03	0.85	0.72	0.65	0.56	0.49	0.46
17	18	99	99	83.62	42.17	26.57	8.49	5.16	3.55	2.74	2.15	1.67	1.48	1.26	1.08	0.88	0.73	0.59	0.52	0.46	0.40	0.34
18	19	99	99	83.62	42.17	26.57	8.49	5.16	3.55	2.74	2.15	1.67	1.48	1.26	1.08	0.88	0.73	0.59	0.52	0.46	0.40	0.34
19	20	99	99	83.62	42.17	26.57	8.49	5.16	3.55	2.74	2.15	1.67	1.48	1.26	1.08	0.88	0.73	0.59	0.52	0.46	0.40	0.34
20	21	99	99	83.15	32.96	15.85	9.34	5.87	4.15	3.04	2.29	1.81	1.46	1.21	1.01	0.91	0.74	0.63	0.55	0.51	0.47	0.43
21	22	99	99	84.83	34.90	17.49	11.08	6.61	4.70	3.52	2.62	2.08	1.72	1.47	1.22	0.90	0.77	0.67	0.61	0.57	0.51	0.44
22	23	99	99	85.32	36.85	18.32	11.80	7.95	5.71	4.42	3.54	2.90	2.34	1.95	1.63	1.31	1.12	0.94	0.82	0.74	0.64	0.53
23	24	99	99	87.41	40.75	23.77	15.13	10.42	7.81	5.83	4.51	3.75	3.08	2.48	2.01	1.68	1.57	1.30	1.16	1.03	0.87	0.81
24	25	99	99	88.02	45.02	26.08	16.93	11.87	8.58	6.72	5.38	4.36	3.43	3.00	2.65	2.30	2.12	1.80	1.51	1.33	1.17	1.01

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	TURBULENCE INTENSITY, PERCENT																			
	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
0.0 2.0	99.99	81.60	21.30	9.98	6.16	4.16	3.18	2.47	1.97	1.70	1.37	1.25	1.10	1.03	0.96	0.87	0.79	0.74	0.68	0.65
2.0 4.0	99.99	91.53	54.77	30.08	17.49	11.02	7.48	5.59	4.44	3.61	3.10	2.69	2.42	2.18	1.99	1.82	1.64	1.52	1.41	1.30
4.0 6.0	99.99	93.77	53.63	20.12	7.59	3.19	1.49	0.78	0.43	0.24	0.17	0.11	0.08	0.06	0.05	0.04	0.04	0.03	0.03	0.03
6.0 8.0	99.99	98.27	58.18	15.52	3.94	1.06	0.38	0.17	0.08	0.04	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0 10.0	99.99	99.49	60.59	14.24	3.06	0.70	0.21	0.07	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0 12.0	99.99	99.75	62.96	12.84	2.49	0.56	0.15	0.06	0.04	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0 14.0	99.99	99.93	63.00	13.33	2.57	0.60	0.14	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0 16.0	99.99	99.95	67.80	15.05	2.82	0.52	0.07	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0 18.0	99.99	99.99	66.35	11.05	1.66	0.33	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0 20.0	99.99	99.99	62.63	11.81	1.36	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0 22.0	99.99	99.99	64.59	11.21	1.91	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0 24.0	99.99	99.99	61.81	10.76	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0 26.0	99.99	99.99	54.41	10.29	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0 28.0	99.99	99.99	75.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0 30.0	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0 32.0																				
32.0 34.0																				
34.0 36.0																				
36.0 38.0																				
38.0 40.0																				
40.0 42.0																				
42.0 44.0																				
44.0 46.0																				
46.0 48.0																				
48.0 50.0																				

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY WIND SPEED(9 METERS) RANGE
AT LIVINGSTON, MONTANA.
(VALUES OF " " ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	TURBULENCE INTENSITY, PERCENT															
	>	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=
0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0
2.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0
4.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
6.0	6.0	8.0	6.0	8.0	6.0	8.0	6.0	8.0	6.0	8.0	6.0	8.0	6.0	8.0	6.0	8.0
8.0	8.0	10.0	8.0	10.0	8.0	10.0	8.0	10.0	8.0	10.0	8.0	10.0	8.0	10.0	8.0	10.0
10.0	10.0	12.0	10.0	12.0	10.0	12.0	10.0	12.0	10.0	12.0	10.0	12.0	10.0	12.0	10.0	12.0
12.0	12.0	14.0	12.0	14.0	12.0	14.0	12.0	14.0	12.0	14.0	12.0	14.0	12.0	14.0	12.0	14.0
14.0	14.0	16.0	14.0	16.0	14.0	16.0	14.0	16.0	14.0	16.0	14.0	16.0	14.0	16.0	14.0	16.0
16.0	16.0	18.0	16.0	18.0	16.0	18.0	16.0	18.0	16.0	18.0	16.0	18.0	16.0	18.0	16.0	18.0
18.0	18.0	20.0	18.0	20.0	18.0	20.0	18.0	20.0	18.0	20.0	18.0	20.0	18.0	20.0	18.0	20.0
20.0	20.0	22.0	20.0	22.0	20.0	22.0	20.0	22.0	20.0	22.0	20.0	22.0	20.0	22.0	20.0	22.0
22.0	22.0	24.0	22.0	24.0	22.0	24.0	22.0	24.0	22.0	24.0	22.0	24.0	22.0	24.0	22.0	24.0
24.0	24.0	26.0	24.0	26.0	24.0	26.0	24.0	26.0	24.0	26.0	24.0	26.0	24.0	26.0	24.0	26.0
26.0	26.0	28.0	26.0	28.0	26.0	28.0	26.0	28.0	26.0	28.0	26.0	28.0	26.0	28.0	26.0	28.0
28.0	28.0	30.0	28.0	30.0	28.0	30.0	28.0	30.0	28.0	30.0	28.0	30.0	28.0	30.0	28.0	30.0
30.0	30.0	32.0	30.0	32.0	30.0	32.0	30.0	32.0	30.0	32.0	30.0	32.0	30.0	32.0	30.0	32.0
32.0	32.0	34.0	32.0	34.0	32.0	34.0	32.0	34.0	32.0	34.0	32.0	34.0	32.0	34.0	32.0	34.0
34.0	34.0	36.0	34.0	36.0	34.0	36.0	34.0	36.0	34.0	36.0	34.0	36.0	34.0	36.0	34.0	36.0
36.0	36.0	38.0	36.0	38.0	36.0	38.0	36.0	38.0	36.0	38.0	36.0	38.0	36.0	38.0	36.0	38.0
38.0	38.0	40.0	38.0	40.0	38.0	40.0	38.0	40.0	38.0	40.0	38.0	40.0	38.0	40.0	38.0	40.0
40.0	40.0	42.0	40.0	42.0	40.0	42.0	40.0	42.0	40.0	42.0	40.0	42.0	40.0	42.0	40.0	42.0
42.0	42.0	44.0	42.0	44.0	42.0	44.0	42.0	44.0	42.0	44.0	42.0	44.0	42.0	44.0	42.0	44.0
44.0	44.0	46.0	44.0	46.0	44.0	46.0	44.0	46.0	44.0	46.0	44.0	46.0	44.0	46.0	44.0	46.0
46.0	46.0	48.0	46.0	48.0	46.0	48.0	46.0	48.0	46.0	48.0	46.0	48.0	46.0	48.0	46.0	48.0
48.0	48.0	50.0	48.0	50.0	48.0	50.0	48.0	50.0	48.0	50.0	48.0	50.0	48.0	50.0	48.0	50.0

ACCUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY WIND SPEED(9 METERS) RANGE
AT LIVINGSTON, MONTANA.
(VALUES OF " " ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD OCT 1964 - NOV 1964

WIND SPEED RANGE (M/S)	TURBULENCE INTENSITY, PERCENT															
	>=0	>=1	>=2	>=3	>=4	>=5	>=6	>=7	>=8	>=9	>=10	>=11	>=12	>=13	>=14	>=15
>																
0.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
2.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
4.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
6.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
8.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
10.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
12.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
14.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
16.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
18.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
20.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
22.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
24.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
26.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
28.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
30.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
32.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
34.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
36.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
38.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
40.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
42.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
44.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
46.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
48.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99
50.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY WIND SPEED(30 METERS) RANGE
 AT LIVINGSTON, MONTANA.
 (VALUES OF " " ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)
 DATA PERIOD SEP.1985 - NOV.1986.

TABLE E4-10

WIND SPEED RANGE (M/S)	TURBULENCE INTENSITY, PERCENT															
	<4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	>18
<4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5-6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6-7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7-8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8-9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9-10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10-11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11-12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12-13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13-14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14-15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15-16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16-17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17-18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18-19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19-20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20-21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21-22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24-25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25-26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26-27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27-28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28-29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29-30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30-31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31-32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32-33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33-34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34-35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35-36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36-37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37-38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38-39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39-40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40-41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41-42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42-43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43-44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44-45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45-46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46-47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47-48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48-49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49-50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY WIND SPEED(46 METERS) RANGE
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP.1985 - NOV.1986.

TABLE E4-11

WIND SPEED RANGE (M/S)	TURBULENCE INTENSITY, PERCENT																			
	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
0.0	99.99	95.52	79.74	61.94	47.00	35.19	26.19	19.81	15.17	11.93	9.21	7.37	6.02	5.04	4.16	3.52	3.14	2.76	2.49	2.23
2.0	99.99	94.31	72.96	53.05	38.48	28.00	21.09	16.25	12.94	10.61	8.83	7.38	6.33	5.37	4.69	4.09	3.58	3.19	2.82	2.55
4.0	99.99	90.54	51.38	24.43	11.79	6.42	3.64	2.25	1.44	1.05	0.71	0.54	0.42	0.33	0.27	0.21	0.18	0.14	0.12	0.12
6.0	99.99	88.23	37.78	12.38	4.55	1.75	0.72	0.30	0.15	0.09	0.05	0.03	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
8.0	99.99	88.79	32.09	8.77	2.78	0.93	0.37	0.19	0.10	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	99.99	90.27	28.58	6.63	1.92	0.76	0.26	0.11	0.06	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	99.99	88.76	23.53	4.82	1.59	0.44	0.15	0.08	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	99.99	88.77	21.85	4.74	1.50	0.49	0.11	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	99.99	88.23	22.06	4.10	1.33	0.46	0.19	0.07	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00
18.0	99.99	88.04	15.58	1.98	0.28	0.07	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	99.99	87.31	9.16	1.37	0.28	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	99.99	79.93	6.75	0.52	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	99.99	83.33	4.40	0.63	0.31	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.00	0.00	0.00
26.0	99.99	76.06	1.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	99.99	66.67	4.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	99.99	70.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	99.99	57.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0																				
38.0																				
40.0																				
42.0																				
44.0																				
46.0																				
48.0																				
50.0																				

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY WIND SPEED(46 METERS) RANGE
AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)		TURBULENCE INTENSITY, PERCENT																			
= <		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
348	11	99.03	96.90	68.25	42.05	24.17	20.51	14.73	11.04	8.21	6.55	5.40	4.21	3.57	2.79	2.79	2.46	2.20	1.91	1.68	1.54
11	33	99.99	99.16	80.19	56.01	47.19	28.65	20.56	15.15	11.53	9.20	7.31	6.01	5.25	4.30	3.71	3.19	2.79	2.39	2.22	1.89
33	56	99.00	99.48	71.35	44.81	26.45	19.21	13.28	9.65	7.16	5.85	4.56	3.87	3.31	2.86	2.45	2.17	1.80	1.55	1.46	1.23
56	78	99.99	99.75	54.31	21.34	11.55	7.09	4.87	3.44	2.52	1.99	1.57	1.25	1.04	0.90	0.75	0.65	0.57	0.50	0.44	0.40
78	101	99.00	96.67	39.27	12.23	7.10	4.83	3.56	2.73	2.16	1.72	1.40	1.15	0.95	0.78	0.65	0.55	0.46	0.43	0.39	0.34
101	123	99.99	92.85	47.74	26.56	17.96	12.86	10.00	7.97	6.43	5.41	4.56	3.94	3.29	2.67	2.47	2.33	2.10	1.94	1.70	1.49
123	146	99.99	98.91	54.32	33.54	22.68	16.63	12.50	9.36	7.67	6.13	5.26	4.43	3.87	3.34	2.89	2.48	2.30	2.08	1.95	1.77
146	168	99.99	91.82	66.15	42.60	30.36	22.39	16.35	12.06	9.85	7.94	6.77	5.56	4.75	4.22	3.55	3.08	2.68	2.48	2.21	1.90
168	191	99.99	96.11	41.57	18.96	12.13	8.55	6.46	4.97	3.85	3.08	2.43	2.14	1.82	1.60	1.31	1.18	1.01	0.90	0.83	0.76
191	213	99.99	99.44	40.26	16.74	9.36	5.26	2.20	1.51	1.11	0.82	0.65	0.54	0.45	0.41	0.34	0.30	0.26	0.23	0.20	0.15
213	236	99.99	97.61	57.61	22.78	10.79	5.73	3.52	2.41	1.77	1.34	1.09	0.92	0.77	0.66	0.55	0.48	0.41	0.36	0.33	0.28
236	258	99.99	95.08	51.07	19.58	9.46	5.43	3.46	2.40	1.78	1.39	1.10	0.89	0.74	0.62	0.51	0.46	0.40	0.35	0.31	0.29
258	281	99.99	94.23	76.07	33.46	15.71	8.87	5.13	4.25	3.23	2.51	2.00	1.64	1.36	1.16	0.95	0.82	0.74	0.63	0.56	0.52
281	303	99.99	98.24	89.59	53.75	26.09	18.84	11.24	9.47	7.22	5.51	4.56	3.59	3.07	2.53	2.00	1.69	1.46	1.31	1.08	1.00
303	326	99.99	96.08	84.19	59.07	35.01	27.29	19.84	14.59	11.04	8.80	7.20	6.01	4.94	3.82	2.97	2.60	2.24	1.96	1.68	1.48
326	348	99.99	99.21	86.57	52.41	30.75	21.91	15.44	11.70	8.72	6.44	5.11	4.11	3.49	3.05	2.64	2.27	2.01	1.83	1.71	1.48

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY WIND DIRECTION(9 METERS) RANGE
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

WIND
DIRECTION
RANGE
(DEGREES)

TURBULENCE INTENSITY, PERCENT

	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
348 11	92.76	97.46	97.08	98.41	10.48	6.71	4.99	3.82	2.10	1.55	1.00	1.70	1.57	1.52	1.37	1.17	1.10	1.02	0.90
11 33	91.26	97.80	97.84	98.77	10.51	7.45	5.71	4.51	2.76	1.84	1.24	2.04	1.83	1.64	1.58	1.45	1.39	1.26	1.10
33 56	88.76	97.63	98.21	98.86	10.71	4.57	3.25	2.37	1.89	1.41	1.04	1.48	1.40	1.26	1.22	1.14	1.00	0.94	0.80
56 78	92.17	97.34	98.44	98.88	10.77	7.33	5.83	4.06	2.87	1.73	1.03	0.59	0.53	0.48	0.44	0.40	0.37	0.35	0.31
78 101	95.29	96.91	98.31	98.77	10.77	1.66	1.20	0.92	0.80	0.70	0.63	0.56	0.50	0.47	0.44	0.42	0.37	0.37	0.35
101 123	92.37	98.01	98.04	98.78	10.84	4.47	3.35	2.43	1.86	1.22	0.84	1.28	1.17	0.93	0.82	0.82	0.77	0.74	0.69
123 146	95.72	98.44	98.78	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
146 168	95.72	98.44	98.78	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
168 191	91.66	97.37	98.20	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
191 213	91.66	97.37	98.20	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
213 236	91.66	97.37	98.20	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
236 256	91.66	97.37	98.20	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
256 281	95.02	97.59	98.78	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
281 303	95.36	98.11	98.78	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
303 326	95.36	98.11	98.78	98.78	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68
326 348	95.96	98.92	98.92	98.92	10.84	11.50	8.61	6.61	5.47	4.88	4.04	3.47	2.63	2.82	2.54	2.38	2.00	1.84	1.68

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY WIND DIRECTION(30 METERS) RANGE
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION		TURBULENCE INTENSITY, PERCENT													
RANGE															
(DEGREES)															
>=		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65
<		<	<	<	<	<	<	<	<	<	<	<	<	<	<
348	11	99.99	95.88	66.95	43.04	28.01	18.95	13.28	10.01	7.74	6.14	5.09	4.42	3.82	3.40
11	33	99.99	95.64	74.34	51.96	36.24	24.37	17.55	12.88	9.74	7.61	6.21	4.96	4.20	3.84
33	56	99.99	94.76	64.63	40.39	25.88	17.34	12.12	8.73	6.58	5.10	4.07	3.49	2.69	2.41
56	78	99.99	95.77	45.22	18.24	9.96	6.36	4.34	3.15	2.26	1.87	1.52	1.27	1.08	0.91
78	101	99.99	90.24	28.89	12.39	7.67	5.29	3.78	2.84	2.28	1.80	1.45	1.17	0.99	0.88
101	123	99.99	92.98	51.20	30.14	20.04	14.46	10.74	8.29	6.30	5.37	4.30	3.48	2.90	2.54
123	146	99.99	95.56	74.55	52.95	38.77	26.64	22.09	17.76	13.91	11.37	9.96	8.39	7.14	6.28
146	168	99.99	95.72	76.16	55.18	40.01	30.11	23.14	18.39	13.41	10.48	8.54	7.19	6.50	5.98
168	191	99.99	90.53	26.12	12.53	7.77	5.26	3.85	2.89	2.24	1.81	1.45	1.19	0.93	0.74
191	213	99.99	95.07	40.52	14.85	6.93	3.82	2.55	1.77	1.36	1.07	0.86	0.67	0.58	0.50
213	236	99.99	92.16	48.23	21.64	11.29	6.60	4.12	2.88	2.13	1.61	1.26	1.05	0.90	0.79
236	258	99.99	90.25	41.38	17.39	9.01	5.53	3.62	2.57	1.83	1.37	1.07	0.86	0.67	0.55
258	281	99.99	96.23	55.30	24.78	12.98	7.98	5.48	3.90	2.94	2.34	1.86	1.52	1.20	1.01
281	303	99.99	97.61	75.38	45.86	29.58	20.37	14.21	10.51	7.80	6.24	4.96	4.07	3.27	2.73
303	326	99.99	97.60	80.20	56.47	39.47	27.99	20.23	15.02	11.11	8.71	6.84	5.67	5.05	4.44
326	348	99.99	98.09	69.23	38.85	25.15	17.08	12.16	9.05	7.01	5.67	4.39	3.59	2.94	2.54

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY WIND DIRECTION(30 METERS) RANGE
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

WIND
DIRECTION
RANGE

TURBULENCE INTENSITY, PERCENT

WIND DIRECTION RANGE	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95
348 11	30.90	91.44	52.70	28.48	14.24	9.60	6.40	4.56	3.61	2.89	2.27	1.83	1.44	1.17	0.97	0.80	0.65	0.52	0.43
11 33	30.91	91.45	52.71	28.49	14.25	9.61	6.41	4.57	3.62	2.90	2.28	1.84	1.45	1.18	0.98	0.81	0.66	0.53	0.44
33 56	30.92	91.46	52.72	28.50	14.26	9.62	6.42	4.58	3.63	2.91	2.29	1.85	1.46	1.19	0.99	0.82	0.67	0.54	0.45
56 76	30.93	91.47	52.73	28.51	14.27	9.63	6.43	4.59	3.64	2.92	2.30	1.86	1.47	1.20	1.00	0.83	0.68	0.55	0.46
76 101	30.94	91.48	52.74	28.52	14.28	9.64	6.44	4.60	3.65	2.93	2.31	1.87	1.48	1.21	1.01	0.84	0.69	0.56	0.47
101 123	30.95	91.49	52.75	28.53	14.29	9.65	6.45	4.61	3.66	2.94	2.32	1.88	1.49	1.22	1.02	0.85	0.70	0.57	0.48
123 146	30.96	91.50	52.76	28.54	14.30	9.66	6.46	4.62	3.67	2.95	2.33	1.89	1.50	1.23	1.03	0.86	0.71	0.58	0.49
146 168	30.97	91.51	52.77	28.55	14.31	9.67	6.47	4.63	3.68	2.96	2.34	1.90	1.51	1.24	1.04	0.87	0.72	0.59	0.50
168 191	30.98	91.52	52.78	28.56	14.32	9.68	6.48	4.64	3.69	2.97	2.35	1.91	1.52	1.25	1.05	0.88	0.73	0.60	0.51
191 213	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
213 236	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
236 258	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
258 281	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
281 303	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
303 326	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52
326 348	30.99	91.53	52.79	28.57	14.33	9.69	6.49	4.65	3.70	2.98	2.36	1.92	1.53	1.26	1.06	0.89	0.74	0.61	0.52

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY (46 METERS) BY WIND DIRECTION (46 METERS) RANGE
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP. 1985 - NOV. 1986.

WIND DIRECTION RANGE (DEGREES)		TURBULENCE INTENSITY, PERCENT																			
		<5	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
348	11	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
11	33	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
33	56	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
56	78	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
78	101	99.94	82.41	24.61	10.90	6.80	4.97	3.68	2.77	2.10	1.47	1.42	1.23	1.02	0.91	0.81	0.68	0.58	0.52	0.47	0.41
101	123	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
123	146	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
146	168	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
168	191	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
191	213	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
213	236	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
236	258	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
258	281	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
281	303	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
303	326	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65
326	348	94.30	94.07	64.10	41.63	27.79	19.77	14.40	10.83	8.46	6.86	5.71	4.81	4.21	3.56	2.85	2.56	2.37	2.10	1.84	1.65

CUMULATIVE PERCENT FREQUENCY OF AEROSSOL TURBULENCE INTENSITY(46 METERS) BY WIND DIRECTION(46 METERS) RANGE
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

TEMP@46M MINUS TEMP@5M (DEG C)	TURBULENCE INTENSITY, PERCENT															
>	<=3.5	>3.5 <=4.5	>4.5 <=5.5	>5.5 <=6.5	>6.5 <=7.5	>7.5 <=8.5	>8.5 <=9.5	>9.5 <=10.5	>10.5 <=11.5	>11.5 <=12.5	>12.5 <=13.5	>13.5 <=14.5	>14.5 <=15.5	>15.5 <=16.5	>16.5 <=17.5	>17.5
-0.8	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-0.6	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-0.4	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
-0.2	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
0	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
0.2	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
0.4	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
0.6	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
0.8	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
1.0	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
1.2	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
1.4	93.47	77.44	64.29	54.81	44.81	34.81	24.81	14.81	4.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY DELTA Z(146M-79M) PARCES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP46M MINUS TEMP9M (DEG C) > -0.8 -0.6 -0.2 -0.2 +0.5 +0.5 +1.4 +1.4	TURBULENCE INTENSITY, PERCENT																	
	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85
	99.99	99.55	85.14	49.79	27.77	17.02	11.38	7.85	5.55	4.21	3.31	2.72	2.24	1.84	1.53	1.32	1.14	1.05
	99.99	99.57	70.17	27.50	12.20	6.62	4.46	3.06	2.35	1.87	1.48	1.17	1.01	0.86	0.73	0.65	0.56	0.45
	99.99	98.68	56.36	21.62	11.55	7.14	4.86	3.49	2.61	2.02	1.63	1.33	1.12	0.96	0.81	0.70	0.62	0.54
	99.99	96.97	47.18	18.02	9.53	5.78	3.99	2.84	2.13	1.67	1.36	1.09	0.92	0.78	0.61	0.54	0.48	0.41
	99.99	93.28	46.02	24.58	15.60	10.85	7.77	5.92	4.61	3.57	2.91	2.41	2.10	1.76	1.50	1.34	1.19	1.05
	99.99	93.57	60.80	41.92	30.06	22.80	17.91	14.27	11.88	9.96	8.38	7.06	5.99	5.25	4.45	3.93	3.45	3.17

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(9 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.
DATA PERIOD SEP,1985 - NOV,1986.

TEMP@46M
MINUS
TEMP@3M
(DEG C)
>

TURBULENCE INTENSITY, PERCENT

	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
-0.8	99.99	98.18	60.57	24.86	11.64	5.89	3.32	2.09	1.47	1.14	0.95	0.85	0.73	0.65	0.60	0.55	0.49	0.47	0.44	0.40
-0.6	99.99	97.65	46.15	13.86	6.07	2.63	1.70	1.24	0.93	0.75	0.63	0.50	0.40	0.34	0.30	0.28	0.26	0.23	0.21	0.21
-0.4	99.99	95.29	44.47	14.81	6.42	3.48	2.20	1.56	1.19	0.93	0.75	0.64	0.55	0.47	0.43	0.39	0.34	0.33	0.30	0.28
-0.2	99.99	89.89	38.72	12.59	5.26	3.09	2.04	1.55	1.23	0.96	0.77	0.65	0.55	0.50	0.45	0.42	0.39	0.36	0.34	0.30
+0.5	99.99	81.11	22.19	14.02	7.94	5.34	3.92	3.11	2.61	2.13	1.87	1.61	1.40	1.24	1.12	1.03	0.92	0.79	0.72	0.66
+1.4	99.99	81.11	40.67	23.40	15.57	10.94	8.21	6.28	5.16	4.27	3.75	3.20	2.83	2.57	2.36	2.19	2.07	1.84	1.66	1.53

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP. 1966 - NOV. 1966.

TABLE I4-21

TEMP:4PM MINUS TEMP:4M (DEG C)		TURBULENCE INTENSITY, PERCENT																			
		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
99.99	99.03	72.67	40.41	23.48	14.44	9.34	6.46	4.66	3.53	2.70	2.16	1.74	1.48	1.23	1.04	0.90	0.79	0.69	0.60		
-0.8	-0.6	99.99	98.07	54.13	20.75	10.43	6.43	4.35	3.03	2.24	1.77	1.45	1.24	0.99	0.86	0.75	0.64	0.57	0.45	0.38	0.32
0.8	0.6	99.99	95.89	44.76	19.52	11.19	7.21	4.91	3.54	2.70	2.11	1.70	1.38	1.15	0.99	0.86	0.76	0.65	0.55	0.48	0.42
-0.2	+0.5	99.99	91.67	36.28	18.00	10.27	6.56	4.56	3.41	2.56	2.01	1.58	1.29	1.06	0.91	0.77	0.68	0.61	0.53	0.46	0.42
+0.5	+1.4	99.99	86.53	43.25	25.32	16.59	11.67	8.61	6.62	5.18	4.23	3.49	2.96	2.54	2.18	1.92	1.66	1.49	1.27	1.20	1.09
+1.4		99.99	86.59	56.29	38.55	27.20	20.37	15.98	12.51	9.87	8.18	6.90	5.75	4.86	4.26	3.77	3.25	2.95	2.54	2.39	2.09

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP@9M MINUS		TURBULENCE INTENSITY, PERCENT																
TEMP@9M (DEG C)		<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=
>		<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=	>=	<=
-0.8	-0.8	00.00	00.00	77.47	40.41	23.48	14.49	8.44	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48	4.48
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43
-0.6	-0.6	00.00	00.00	44.78	14.43	11.19	7.11	4.91	3.54	2.70	2.11	1.70	1.48	1.24	1.04	0.90	0.79	0.69
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43
-0.2	-0.2	00.00	00.00	44.78	14.43	11.19	7.11	4.91	3.54	2.70	2.11	1.70	1.48	1.24	1.04	0.90	0.79	0.69
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43
+0.5	+0.5	00.00	00.00	44.78	14.43	11.19	7.11	4.91	3.54	2.70	2.11	1.70	1.48	1.24	1.04	0.90	0.79	0.69
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43
+1.4	+1.4	00.00	00.00	44.78	14.43	11.19	7.11	4.91	3.54	2.70	2.11	1.70	1.48	1.24	1.04	0.90	0.79	0.69
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43
+1.3	+1.3	00.00	00.00	44.78	14.43	11.19	7.11	4.91	3.54	2.70	2.11	1.70	1.48	1.24	1.04	0.90	0.79	0.69
		00.00	00.00	07.54	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43	10.43

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV 1985

1111111111

TEMP@46M MINUS TEMP@3M (DEG C) >	TURBULENCE INTENSITY, PERCENT																			
	<=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
-0.8	99.99	97.05	53.78	21.41	9.32	4.62	2.67	1.89	1.46	1.25	1.01	0.85	0.76	0.72	0.63	0.61	0.56	0.54	0.52	0.48
-0.6	99.99	95.98	46.15	11.59	4.29	2.14	1.39	0.98	0.84	0.67	0.55	0.49	0.45	0.41	0.38	0.35	0.29	0.27	0.24	0.22
-0.4	99.99	93.90	41.66	15.37	6.42	2.29	2.04	1.48	1.16	0.94	0.77	0.65	0.57	0.51	0.45	0.39	0.34	0.31	0.28	0.26
-0.2	99.99	87.67	34.54	12.46	5.51	3.03	2.03	1.53	1.18	0.95	0.78	0.67	0.57	0.51	0.47	0.42	0.38	0.34	0.32	0.28
+0.2	99.99	75.62	32.50	14.10	8.06	5.58	4.06	3.07	2.46	1.98	1.64	1.44	1.26	1.15	1.04	0.95	0.86	0.79	0.72	0.66
+0.4	99.99	75.12	29.36	23.41	16.04	11.45	8.63	6.82	5.48	4.52	3.85	3.32	2.92	2.65	2.29	2.02	1.89	1.68	1.55	1.46

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TEMP89M MINUS TEMP89M (DEG C)	TURBULENCE INTENSITY, PERCENT																
	>=0	>=1	>=2	>=3	>=4	>=5	>=6	>=7	>=8	>=9	>=10	>=11	>=12	>=13	>=14	>=15	>=16
> -0.8	99.99	98.21	87.11	67.34	44.22	27.25	14.22	9.50	6.55	4.40	3.44	2.74	2.25	1.80	1.52	1.30	1.13
-0.8 -0.6	99.99	96.06	47.62	19.50	9.37	5.42	3.46	2.78	2.21	1.81	1.39	1.14	1.00	0.84	0.70	0.61	0.52
-0.6 -0.2	99.99	92.48	40.79	16.01	11.18	7.10	4.98	3.60	2.80	2.19	1.75	1.43	1.22	1.04	0.89	0.74	0.64
-0.2 +0.5	99.99	98.07	38.61	17.74	11.48	7.80	4.64	3.50	2.68	2.12	1.73	1.42	1.20	1.00	0.85	0.76	0.68
+0.5 +1.4	99.99	93.44	43.38	25.47	17.24	12.48	9.24	7.16	5.41	4.43	3.82	3.19	2.72	2.43	2.04	1.78	1.57
+1.4	99.99	94.51	40.40	27.94	22.39	21.77	17.35	14.01	11.41	9.53	7.80	6.48	5.50	4.59	4.04	3.39	3.02

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(46 METERS) BY DELTA T(T46M-T9M) RANGES
AT LIVINGSTON, MONTANA.

DATA PERIOD SEP, 1999 - NOV, 1999.

ACROSSWIND
TURBULENCE
INTENSITY

ALONGWIND TURBULENCE INTENSITY, PERCENT

RANGE (PERCENT)	>=	<	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
0	56.71	9.35	4.27	2.40	1.46	0.90	0.65	0.46	0.38	0.36	0.36	0.36	0.36	0.36	0.36	0.31	0.27	0.27	0.23	0.19	0.19	0.17
5	36.57	36.57	4.46	0.62	0.14	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	16.21	16.21	3.17	0.73	0.22	0.08	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	7.74	7.74	2.58	1.76	1.32	0.38	0.16	0.08	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	3.73	3.73	2.58	1.76	1.32	0.38	0.16	0.08	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	2.48	2.48	1.76	1.32	1.02	0.64	0.41	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	1.71	1.71	1.32	1.02	0.73	0.51	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	1.19	1.19	0.84	0.65	0.46	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.84	0.84	0.65	0.46	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.65	0.65	0.46	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.46	0.46	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.31	0.31	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.16	0.16	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.07	0.07	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.06	0.06	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.05	0.05	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	0.03	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	0.02	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(9 METERS) BY ACROSSWIND TURBULENCE INTENSITY(9 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

ALONGWIND
TURBULENCE
INTENSITY

ALONGWIND TURBULENCE INTENSITY, PERCENT

RANGE PERCENT	>=	<	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
0	94.99	51.40	6.48	2.14	1.64	1.54	1.05	0.85	0.66	0.51	0.45	0.37	0.32	0.26	0.21	0.21	0.20	0.19	0.19	0.18	0.15
5	94.99	40.95	24.84	3.08	0.81	1.18	1.18	0.07	0.06	0.04	0.04	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
10	94.99	47.40	52.53	12.80	2.83	0.87	0.75	0.54	0.09	0.06	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.01	0.01
15	94.99	47.50	68.86	28.80	9.47	3.30	1.20	0.54	0.29	0.20	0.11	0.05	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	94.98	96.49	74.67	42.93	18.71	7.71	3.18	1.63	0.84	0.51	0.38	0.28	0.22	0.15	0.15	0.15	0.15	0.13	0.12	0.12	0.09
25	94.94	94.00	77.83	50.15	27.50	12.74	6.73	2.92	1.51	1.02	0.62	0.38	0.28	0.26	0.18	0.18	0.18	0.13	0.08	0.08	0.03
30	94.94	99.88	88.28	58.61	35.42	19.12	10.42	5.86	3.66	2.18	1.34	0.84	0.50	0.38	0.29	0.21	0.21	0.21	0.21	0.21	0.21
35	94.94	99.81	87.53	62.91	40.09	23.12	13.84	7.64	5.01	3.20	2.19	1.50	1.07	0.69	0.63	0.31	0.25	0.19	0.19	0.19	0.19
40	94.94	96.99	74.58	72.49	51.38	34.67	22.89	13.18	8.50	5.16	4.11	2.77	1.43	0.94	0.57	0.57	0.57	0.57	0.38	0.31	0.21
45	94.94	99.99	99.99	71.70	57.87	40.85	27.78	18.82	12.56	8.32	5.76	3.84	2.94	1.66	1.02	0.77	0.77	0.64	0.51	0.51	0.43
50	94.94	99.99	99.99	84.48	65.16	53.48	40.82	27.45	20.86	15.15	10.70	8.58	5.53	4.03	2.21	2.14	1.90	1.25	0.89	0.89	0.89
55	94.94	99.99	99.99	91.63	75.18	58.41	47.30	33.92	28.45	15.58	11.99	10.30	7.32	6.18	4.03	3.43	2.97	2.75	2.75	2.75	2.75
60	94.94	99.99	99.99	94.43	86.56	64.74	51.81	36.00	38.98	27.95	18.11	13.35	11.61	9.21	6.67	5.40	4.13	3.61	3.49	3.49	3.49
65	94.94	99.99	99.99	96.94	96.74	77.87	61.81	40.00	45.58	34.88	27.44	22.33	16.74	13.0	8.27	6.30	6.30	5.77	4.93	4.93	4.93
70	94.94	99.99	99.99	99.99	99.99	87.87	69.77	47.21	45.58	44.88	33.13	29.52	24.19	18.77	14.40	13.25	10.54	9.64	9.64	9.64	9.64
75	94.94	99.99	99.99	99.99	99.99	98.98	84.84	51.66	56.64	49.76	40.49	32.52	26.38	23.31	19.63	17.18	14.72	13.50	11.66	10.43	10.43
80	94.94	99.99	99.99	99.99	99.99	98.98	86.18	61.41	68.76	65.64	49.69	40.49	32.52	26.38	23.31	19.63	17.18	14.72	13.50	11.66	10.43
85	94.94	99.99	99.99	99.99	99.99	99.99	99.99	73.48	59.09	51.52	44.70	36.64	28.79	22.73	19.74	18.94	13.64	12.12	12.12	12.12	12.12
90	94.94	99.99	99.99	99.99	99.99	99.99	99.99	85.71	76.19	60.95	51.43	43.81	40.00	36.19	34.29	33.32	30.48	22.86	20.00	19.06	16.10
95	94.94	96.99	99.99	99.99	99.99	99.99	99.99	97.08	44.74	92.05	88.14	85.15	79.53	75.67	72.62	69.82	66.32	63.27	58.71	55.44	51.81

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(30 METERS) BY ACROSSWIND TURBULENCE INTENSITY(30 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

ACROSSWIND
TURBULENCE
INTENSITY
RANGE
(PERCENT)

ALONGWIND TURBULENCE INTENSITY, PERCENT

	<	>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
0	5	44.39	53.13	8.44	2.34	0.87	6.49	0.36	0.29	0.19	0.12	0.10	0.07	0.05	0.04	0.03	0.03	0.03	0.03	0.03	0.02
5	10	34.99	84.13	22.20	3.83	0.76	6.18	0.08	0.05	0.07	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
10	15	24.99	96.92	49.71	11.91	2.78	0.72	0.26	0.12	0.07	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
15	20	20.99	97.57	66.80	26.71	8.28	0.75	0.95	0.42	0.28	0.14	0.06	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
20	25	20.99	98.52	77.49	40.23	16.51	6.28	2.35	1.07	0.52	0.24	0.12	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	30	20.99	99.25	77.39	50.17	24.84	11.44	5.38	2.53	1.29	0.77	0.45	0.32	0.25	0.20	0.14	0.09	0.09	0.09	0.07	0.02
30	35	20.99	99.71	82.51	55.44	32.25	17.49	9.14	4.90	2.38	1.19	0.68	0.54	0.32	0.25	0.25	0.25	0.22	0.18	0.14	0.08
35	40	20.99	99.84	87.70	62.78	41.73	24.28	13.33	7.53	4.07	2.55	1.46	0.98	0.70	0.49	0.38	0.39	0.27	0.22	0.05	0.05
40	45	20.99	99.99	97.52	81.06	56.11	41.41	26.19	17.39	11.90	7.87	4.97	2.90	1.97	1.45	1.14	1.04	0.93	0.74	0.16	0.08
45	50	20.99	99.99	97.52	81.06	56.11	41.41	26.19	17.39	11.90	7.87	4.97	2.90	1.97	1.45	1.14	1.04	0.93	0.74	0.16	0.08
50	55	20.99	99.99	98.89	87.88	66.30	46.52	32.03	22.56	15.88	10.72	5.43	3.76	2.92	2.62	1.95	1.67	1.39	0.84	0.84	0.56
55	60	20.99	99.99	99.43	93.68	74.71	56.70	42.53	31.80	23.56	18.58	14.75	10.54	7.09	5.75	4.60	3.07	2.68	2.44	1.54	1.34
60	65	20.99	99.99	99.99	96.12	83.66	66.89	53.65	39.50	28.54	19.63	14.84	11.87	9.59	7.76	6.62	4.11	3.65	3.42	2.74	2.34
65	70	20.99	99.99	99.40	96.95	87.31	75.22	57.70	45.32	35.95	28.40	20.54	14.80	11.48	8.46	6.04	4.83	3.32	1.81	1.21	0.91
70	75	20.99	99.99	99.99	99.64	92.82	82.56	71.17	57.65	45.20	35.94	28.47	21.35	16.01	13.52	9.96	7.12	4.98	3.56	2.89	1.78
75	80	20.99	99.99	99.99	99.07	94.88	87.91	77.21	66.05	56.35	42.33	33.02	26.98	20.00	15.35	13.02	11.16	9.30	6.98	4.65	4.69
80	85	20.99	99.99	99.99	99.44	97.74	93.22	81.92	74.58	62.71	50.85	42.37	34.46	28.81	25.99	20.90	17.51	12.99	9.60	9.60	9.60
85	90	20.99	99.99	99.99	99.35	98.08	94.84	84.52	76.77	70.97	63.23	50.32	40.00	34.84	29.03	23.87	18.71	13.55	12.26	10.97	9.68
90	95	20.99	99.99	99.99	99.99	99.99	98.32	93.28	85.71	78.15	67.23	59.66	49.58	41.18	36.13	28.57	22.69	20.17	16.81	15.13	10.92
95		20.99	99.99	99.99	99.91	99.64	98.91	97.55	95.38	93.12	89.58	85.96	82.25	78.17	74.64	70.38	66.39	62.23	59.06	55.80	52.99

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(46 METERS) BY ACROSSWIND TURBULENCE INTENSITY(46 METERS)
RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TIME OF THE DAY	WIND SHEAR, METERS PER SECOND															
	>=-2	>=0	>=+1	>=+2	>=+3	>=+4	>=+5	>=+6	>=+7	>=+8	>=+9	>=+10				
00 01	99.99	80.14	39.75	8.04	0.94	0.04	0.00	0.00	0.00	0.00	0.00	0.00				
01 02	99.99	78.88	40.56	8.11	0.91	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
02 03	99.99	77.67	41.41	9.04	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
03 04	99.99	79.90	40.35	8.49	0.98	0.04	0.00	0.00	0.00	0.00	0.00	0.00				
04 05	99.99	79.91	42.67	9.62	0.97	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
05 06	99.99	82.02	44.02	9.61	0.63	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
06 07	99.99	81.90	42.71	10.09	0.90	0.03	0.00	0.00	0.00	0.00	0.00	0.00				
07 08	99.99	81.28	38.26	8.35	0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
08 09	99.99	83.81	31.73	6.60	0.67	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
09 10	99.99	85.76	25.15	5.48	0.49	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
10 11	99.99	87.29	22.96	4.91	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
11 12	99.99	89.13	25.10	4.45	0.24	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
12 13	99.99	90.81	26.02	4.27	0.54	0.04	0.01	0.01	0.00	0.00	0.00	0.00				
13 14	99.99	90.38	26.80	3.39	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
14 15	99.99	92.53	28.92	3.70	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
15 16	99.99	92.31	28.59	3.50	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
16 17	99.99	93.54	31.67	3.19	0.29	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
17 18	99.99	93.19	37.53	5.08	0.47	0.03	0.00	0.00	0.00	0.00	0.00	0.00				
18 19	99.99	89.62	40.82	6.24	0.56	0.10	0.07	0.03	0.00	0.00	0.00	0.00				
19 20	99.99	87.85	46.51	8.78	0.45	0.01	0.00	0.00	0.00	0.00	0.00	0.00				
20 21	99.99	85.52	47.28	10.46	0.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
21 22	99.99	84.57	45.01	10.61	0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
22 23	99.99	81.33	42.65	8.73	0.66	0.05	0.00	0.00	0.00	0.00	0.00	0.00				
23 24	99.99	79.61	39.92	8.50	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

TIME OF THE DAY		WIND SHEAR, METERS PER SECOND												
>=		>= -2	>= 0	>= +1	>= +2	>= +3	>= +4	>= +5	>= +6	>= +7	>= +8	>= +9	>= +10	
00	01	99.99	82.95	50.01	20.74	6.55	1.51	0.36	0.03	0.00	0.00	0.00	0.00	
01	02	99.99	81.74	50.50	21.64	6.63	1.87	0.18	0.00	0.00	0.00	0.00	0.00	
02	03	99.99	82.14	51.07	22.96	7.50	1.60	0.29	0.02	0.00	0.00	0.00	0.00	
03	04	99.99	82.90	50.51	23.54	7.53	2.22	0.26	0.02	0.00	0.00	0.00	0.00	
04	05	99.99	82.19	51.27	24.90	7.96	2.11	0.32	0.03	0.00	0.00	0.00	0.00	
05	06	99.99	82.80	53.98	25.70	8.21	1.74	0.23	0.00	0.00	0.00	0.00	0.00	
06	07	99.99	84.88	53.62	25.30	9.16	2.18	0.26	0.02	0.00	0.00	0.00	0.00	
07	08	99.99	84.29	49.66	21.20	7.77	1.48	0.12	0.00	0.00	0.00	0.00	0.00	
08	09	99.99	87.11	44.20	17.68	6.20	1.20	0.17	0.00	0.00	0.00	0.00	0.00	
09	10	99.99	87.36	37.44	14.59	5.48	1.26	0.12	0.01	0.00	0.00	0.00	0.00	
10	11	99.99	88.04	35.62	12.92	4.41	0.71	0.07	0.00	0.00	0.00	0.00	0.00	
11	12	99.99	90.05	36.21	11.20	3.98	0.70	0.03	0.00	0.00	0.00	0.00	0.00	
12	13	99.99	89.87	37.34	11.39	3.86	0.85	0.10	0.01	0.01	0.00	0.00	0.00	
13	14	99.99	90.60	39.01	11.05	2.99	0.51	0.01	0.00	0.00	0.00	0.00	0.00	
14	15	99.99	91.47	40.67	11.52	3.11	0.38	0.01	0.00	0.00	0.00	0.00	0.00	
15	16	99.99	92.38	41.62	10.51	2.68	0.38	0.03	0.00	0.00	0.00	0.00	0.00	
16	17	99.99	93.58	46.70	11.37	2.98	0.64	0.14	0.06	0.00	0.00	0.00	0.00	
17	18	99.99	93.44	50.38	15.73	4.14	1.01	0.26	0.16	0.00	0.00	0.00	0.00	
18	19	99.99	90.34	52.98	18.40	5.03	0.86	0.17	0.13	0.09	0.00	0.00	0.00	
19	20	99.99	88.52	56.60	24.24	6.09	0.87	0.10	0.00	0.00	0.00	0.00	0.00	
20	21	99.99	86.24	57.27	26.19	6.85	1.31	0.17	0.00	0.00	0.00	0.00	0.00	
21	22	99.99	86.85	55.05	25.26	8.20	1.51	0.09	0.03	0.00	0.00	0.00	0.00	
22	23	99.99	83.81	53.92	22.83	7.33	1.30	0.30	0.03	0.00	0.00	0.00	0.00	
23	24	99.99	83.22	49.99	20.44	6.88	1.65	0.15	0.00	0.00	0.00	0.00	0.00	

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

TIME OF THE DAY		WIND SHEAR, METERS PER SECOND												
<		>=-2	>=0	>=+1	>=+2	>=+3	>=+4	>=+5	>=+6	>=+7	>=+8	>=+9	>=+10	
00	01	99.99	78.99	7.64	0.38	0.03	0.02	0.02	0.00	0.00	0.00	0.00	0.00	
01	02	99.99	79.57	8.19	0.47	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
02	03	99.99	81.39	8.46	0.52	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
03	04	99.99	80.77	8.74	0.51	0.08	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
04	05	99.99	79.29	8.29	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
05	06	99.99	80.30	8.22	0.26	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
06	07	99.99	81.95	9.70	0.37	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
07	08	99.99	82.29	8.51	0.47	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
08	09	99.99	79.77	6.55	0.19	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
09	10	99.99	76.31	5.40	0.22	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
10	11	99.99	74.71	3.96	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	12	99.99	75.60	4.17	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	13	99.99	74.74	3.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13	14	99.99	74.99	3.39	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	15	99.99	75.04	3.37	0.08	0.06	0.06	0.06	0.00	0.00	0.00	0.00	0.00	
15	16	99.99	77.20	2.94	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	17	99.99	78.89	3.05	0.28	0.12	0.03	0.02	0.00	0.00	0.00	0.00	0.00	
17	18	99.99	80.11	4.33	0.47	0.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
18	19	99.99	81.14	5.15	0.20	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
19	20	99.99	80.15	6.63	0.11	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	
20	21	99.99	78.88	7.28	0.24	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	22	99.99	80.18	9.30	0.56	0.14	0.03	0.03	0.00	0.00	0.00	0.00	0.00	
22	23	99.99	81.43	8.05	0.53	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	24	99.99	80.17	8.65	0.42	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
BY TIME OF DAY AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M/S)	WIND SHEAR, METERS PER SECOND												
	>	<=	>=+2	>=+1	>=+2	>=+3	>=+4	>=+5	>=+6	>=+7	>=+8	>=+9	>=+10
0.0	99.99	36.48	3.58	0.66	0.16	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
2.0	99.99	64.36	8.66	1.27	0.19	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	99.99	93.92	24.74	1.88	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	99.99	98.49	40.20	2.89	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	99.99	99.27	54.24	6.37	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	99.99	99.47	70.72	13.22	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	99.99	99.70	84.05	23.26	1.16	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	99.99	99.81	91.20	35.57	2.44	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	99.99	99.88	94.50	53.08	5.09	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	99.99	99.99	97.99	70.68	11.41	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	99.99	99.99	99.61	88.10	21.44	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	99.99	99.99	99.99	96.53	33.33	1.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	99.99	99.99	99.99	95.59	45.59	4.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	99.99	99.99	99.99	99.99	75.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	99.99	99.99	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	.	.	.	.	.	.	.	.	.	.	.	.	.
32.0	.	.	.	.	.	.	.	.	.	.	.	.	.
34.0	.	.	.	.	.	.	.	.	.	.	.	.	.
36.0	.	.	.	.	.	.	.	.	.	.	.	.	.
38.0	.	.	.	.	.	.	.	.	.	.	.	.	.
40.0	.	.	.	.	.	.	.	.	.	.	.	.	.
42.0	.	.	.	.	.	.	.	.	.	.	.	.	.
44.0	.	.	.	.	.	.	.	.	.	.	.	.	.
46.0	.	.	.	.	.	.	.	.	.	.	.	.	.
48.0	.	.	.	.	.	.	.	.	.	.	.	.	.
50.0	.	.	.	.	.	.	.	.	.	.	.	.	.

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
 BY WIND SPEED(9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E4-31

WIND SPEED RANGE (M/S)		WIND SHEAR, METERS PER SECOND													
		>	<=	>=-2	>=0	>=+1	>=+2	>=+3	>=+4	>=+5	>=+6	>=+7	>=+8	>=+9	>=+10
0.0	2.0		99.99	41.16	1.86	0.49	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	4.0		99.99	70.11	12.15	1.71	0.25	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
4.0	6.0		99.99	90.25	29.19	5.84	1.23	0.37	0.13	0.05	0.00	0.00	0.00	0.00	0.00
6.0	8.0		99.99	97.11	47.83	10.30	1.37	0.34	0.12	0.04	0.01	0.00	0.00	0.00	0.00
8.0	10.0		99.99	98.45	64.29	16.21	1.83	0.16	0.03	0.01	0.01	0.00	0.00	0.00	0.00
10.0	12.0		99.99	98.96	79.39	27.94	4.86	0.37	0.02	0.00	0.00	0.00	0.00	0.00	0.00
12.0	14.0		99.99	99.63	90.14	45.20	11.31	1.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00
14.0	16.0		99.99	99.94	97.13	68.73	22.72	2.92	0.26	0.00	0.00	0.00	0.00	0.00	0.00
16.0	18.0		99.99	99.91	98.54	81.31	35.04	5.95	0.67	0.09	0.00	0.00	0.00	0.00	0.00
18.0	20.0		99.99	99.99	99.48	89.61	50.47	11.08	2.05	0.07	0.00	0.00	0.00	0.00	0.00
20.0	22.0		99.99	99.99	99.63	95.02	67.03	20.88	0.90	0.05	0.00	0.00	0.00	0.00	0.00
22.0	24.0		99.99	99.99	99.99	99.99	99.99	91.71	45.39	5.30	0.23	0.00	0.00	0.00	0.00
24.0	26.0		99.99	99.99	99.99	99.99	99.99	95.44	61.65	16.54	0.00	0.00	0.00	0.00	0.00
26.0	28.0		99.99	99.99	99.99	99.99	99.99	99.99	82.61	39.13	4.35	0.00	0.00	0.00	0.00
28.0	30.0		99.99	99.99	99.99	99.99	99.99	99.99	99.99	66.67	11.11	0.00	0.00	0.00	0.00
30.0	32.0		99.99	99.99	99.99	99.99	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00
32.0	34.0		99.99	99.99	99.99	99.99	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00
34.0	36.0														
36.0	38.0														
38.0	40.0														
40.0	42.0														
42.0	44.0														
44.0	46.0														
46.0	48.0														
48.0	50.0														

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
 BY WIND SPEED(30 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E4-32

WIND SPEED RANGE (M/S)	WIND SHEAR, METERS PER SECOND													
	>	<=	>=2	>=0	>=1	>=2	>=3	>=4	>=5	>=6	>=7	>=8	>=9	>=10
0.0	2.0	99.99	71.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.0	4.0	99.99	65.26	1.99	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4.0	6.0	99.99	70.41	3.01	0.62	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	8.0	99.99	77.71	2.39	0.23	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	10.0	99.99	84.04	3.19	0.25	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	12.0	99.99	88.67	4.87	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12.0	14.0	99.99	91.45	5.48	0.16	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14.0	16.0	99.99	97.09	19.02	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16.0	18.0	99.99	98.59	30.97	0.59	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18.0	20.0	99.99	98.29	39.47	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	22.0	99.99	98.34	48.34	1.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22.0	24.0	99.99	99.90	61.15	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.0	26.0	99.99	99.66	65.70	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.0	28.0	99.99	99.99	67.25	2.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.0	30.0	99.99	99.99	89.39	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30.0	32.0	99.99	99.99	94.99	17.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32.0	34.0	99.99	99.99	99.99	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34.0	36.0	99.99	99.99	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36.0	38.0	.	.	.	.	.	.	.	.	.	.	.	.	.
38.0	40.0	.	.	.	.	.	.	.	.	.	.	.	.	.
40.0	42.0	.	.	.	.	.	.	.	.	.	.	.	.	.
42.0	44.0	.	.	.	.	.	.	.	.	.	.	.	.	.
44.0	46.0	.	.	.	.	.	.	.	.	.	.	.	.	.
46.0	48.0	.	.	.	.	.	.	.	.	.	.	.	.	.
48.0	50.0	.	.	.	.	.	.	.	.	.	.	.	.	.

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
 BY WIND SPEED(46 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SPEED RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE L4

WIND DIRECTION RANGE (DEGREES)	>= <	WIND SHEAR, METERS PER SECOND											
		> 2	> 0	> +1	> +2	> +3	> +4	> +5	> +6	> +7	> +8	> +9	> +10
348	11	99.99	67.07	6.73	0.21	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	99.99	58.79	3.84	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	99.99	63.17	5.53	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	99.99	84.07	22.72	0.70	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	101	99.99	84.89	29.45	2.31	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	123	99.99	70.13	22.98	2.38	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	146	99.99	49.93	12.08	1.69	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.00
146	168	99.99	44.10	7.90	2.17	0.47	0.07	0.00	0.00	0.00	0.00	0.00	0.00
168	191	99.99	84.01	56.69	25.28	2.64	0.06	0.00	0.00	0.00	0.00	0.00	0.00
191	213	99.99	94.24	64.08	22.78	2.31	0.05	0.00	0.00	0.00	0.00	0.00	0.00
213	236	99.99	92.80	44.89	6.76	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
236	258	99.99	95.40	40.30	3.20	0.11	0.02	0.01	0.01	0.00	0.00	0.00	0.00
258	281	99.99	94.50	39.74	2.03	0.15	0.03	0.01	0.00	0.00	0.00	0.00	0.00
281	303	99.99	86.79	25.24	1.81	0.17	0.03	0.00	0.00	0.00	0.00	0.00	0.00
303	326	99.99	70.79	8.84	0.45	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	99.99	72.16	19.74	2.14	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
BY WIND DIRECTION(9 METERS) RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	WIND SPEED (METERS PER SECOND)	WIND SHEAR, METERS PER SECOND											
		>=2	>=0	>=1	>=2	>=3	>=4	>=5	>=6	>=7	>=8	>=9	>=10
348	11	99.99	73.47	14.47	1.27	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	33	99.99	66.45	6.98	0.48	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	56	99.99	70.71	10.00	0.64	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	78	99.99	87.29	34.43	4.12	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.00
78	101	99.99	81.59	37.37	8.76	1.15	0.08	0.00	0.00	0.00	0.00	0.00	0.00
101	123	99.99	66.46	25.17	6.77	0.62	0.06	0.00	0.00	0.00	0.00	0.00	0.00
123	146	99.99	64.06	17.91	3.97	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	168	99.99	57.66	13.11	3.85	1.24	0.33	0.00	0.00	0.00	0.00	0.00	0.00
168	191	99.99	91.53	74.02	54.45	28.12	8.13	1.07	0.06	0.00	0.00	0.00	0.00
191	213	99.99	93.60	67.98	37.56	13.01	2.54	0.27	0.02	0.00	0.00	0.00	0.00
213	236	99.99	92.40	56.83	20.82	3.47	0.31	0.03	0.00	0.00	0.00	0.00	0.00
236	258	99.99	94.27	55.42	14.46	1.43	0.28	0.15	0.11	0.03	0.00	0.00	0.00
258	281	99.99	93.26	50.34	10.95	0.75	0.09	0.08	0.03	0.00	0.00	0.00	0.00
281	303	99.99	83.44	26.80	4.59	0.80	0.14	0.02	0.00	0.00	0.00	0.00	0.00
303	326	99.99	75.17	17.21	2.34	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326	348	99.99	81.32	33.20	7.90	0.84	0.03	0.00	0.00	0.00	0.00	0.00	0.00

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
BY WIND DIRECTION(30 METERS) RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP,1985 - NOV,1986.

WIND DIRECTION RANGE (DEGREES)	N= °	WIND SHEAR, METERS PER SECOND											
		>= -2	>= 0	>= +1	>= +2	>= +3	>= +4	>= +5	>= +6	>= +7	>= +8	>= +9	>= +10
348 11	348	99.99	73.21	0.80	0.15	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00
11 33	11	99.99	68.91	0.43	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33 56	33	99.99	64.96	0.75	0.15	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56 78	56	99.99	72.99	0.53	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78 101	78	99.99	63.55	2.98	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101 123	101	99.99	50.46	2.47	0.44	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00
123 146	123	99.99	66.94	4.13	0.93	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146 168	146	99.99	66.71	4.76	1.14	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168 191	168	99.99	88.83	20.01	0.65	0.06	0.01	0.01	0.00	0.00	0.00	0.00	0.00
191 213	191	99.99	87.80	19.04	0.63	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
213 236	213	99.99	83.29	5.80	0.17	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
236 258	236	99.99	85.65	3.19	0.21	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00
258 281	258	99.99	83.19	2.53	0.13	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
281 303	281	99.99	76.31	1.38	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
303 326	303	99.99	74.36	1.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
326 348	326	99.99	80.32	1.36	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CUMULATIVE PERCENT FREQUENCY OF WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
BY WIND DIRECTION(46 METERS) RANGES AT LIVINGSTON, MONTANA.

DATA PERIOD SEP.1985 - NOV.1986.

TABLE E4-36

MAXIMUM WIND SHEAR (M/S)	WIND SHEAR RANGE, METERS PER SECOND													
	-2-0	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	>=10		
>=0.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	.	.	.	.	.	.
>=1.0	16.84	88.40	99.99	99.99	99.99	99.99	99.99	99.99	.	.	.	.	.	.
>=2.0	4.68	54.94	97.74	99.99	99.99	99.99	99.99	99.99	.	.	.	.	.	.
>=3.0	1.48	23.87	80.42	98.82	99.99	99.99	99.99	99.99	.	.	.	.	.	.
>=4.0	0.40	7.10	49.88	91.00	98.18	99.99	99.99	99.99	.	.	.	.	.	.
>=5.0	0.14	1.90	23.29	75.37	93.64	99.99	99.99	99.99	.	.	.	.	.	.
>=6.0	0.04	0.52	8.85	51.33	86.46	92.31	99.99	99.99	.	.	.	.	.	.
>=7.0	0.00	0.16	3.02	28.92	75.66	88.46	33.33	99.99	.	.	.	.	.	.
>=8.0	0.00	0.06	0.87	13.63	56.46	65.38	0.00	0.00	.	.	.	.	.	.
>=9.0	0.00	0.02	0.27	5.45	35.05	61.54	0.00	0.00	.	.	.	.	.	.
>=10.0	0.00	0.01	0.08	1.99	17.47	38.46	0.00	0.00	.	.	.	.	.	.
>=11.0	0.00	0.01	0.03	0.70	7.17	26.92	0.00	0.00	.	.	.	.	.	.
>=12.0	0.00	0.00	0.01	0.26	3.03	23.08	0.00	0.00	.	.	.	.	.	.
>=13.0	0.00	0.00	0.00	0.13	1.31	0.00	0.00	0.00	.	.	.	.	.	.
>=14.0	0.00	0.00	0.00	0.03	0.30	0.00	0.00	0.00	.	.	.	.	.	.

CUMULATIVE PERCENT FREQUENCY OF MAXIMUM INSTANTANEOUS WIND SHEAR (SPEED AT 30 METERS MINUS SPEED AT 9 METERS)
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 30 METERS MINUS SPEED AT 9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE L4-37

MAXIMUM WIND SHEAR (M/S)	WIND SHEAR RANGE, METERS PER SECOND											
	-2-0	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	>=10
>=0.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	.	.	.
>=1.0	47.54	89.96	99.06	99.16	98.36	99.99	99.99	99.99	99.99	.	.	.
>=2.0	31.67	62.74	97.68	98.85	97.75	99.99	99.99	99.99	99.99	.	.	.
>=3.0	22.47	33.00	88.13	98.26	97.54	99.99	99.99	99.99	99.99	.	.	.
>=4.0	13.93	12.76	65.27	94.62	96.41	99.99	99.99	99.99	99.99	.	.	.
>=5.0	9.55	4.47	38.89	86.64	95.39	99.99	99.99	99.99	99.99	.	.	.
>=6.0	6.70	1.55	19.61	72.37	92.42	99.99	99.99	99.99	99.99	.	.	.
>=7.0	4.78	0.55	9.09	52.68	85.55	95.65	99.99	99.99	99.99	.	.	.
>=8.0	2.75	0.20	3.89	33.03	76.02	86.96	99.99	99.99	99.99	.	.	.
>=9.0	1.22	0.07	1.54	18.67	62.81	69.57	0.00	0.00	0.00	.	.	.
>=10.0	0.51	0.03	0.60	9.26	42.73	60.87	0.00	0.00	0.00	.	.	.
>=11.0	0.16	0.01	0.21	4.28	25.10	52.17	0.00	0.00	0.00	.	.	.
>=12.0	0.06	0.00	0.08	1.74	13.11	47.83	0.00	0.00	0.00	.	.	.
>=13.0	0.01	0.00	0.03	0.60	4.82	13.04	0.00	0.00	0.00	.	.	.
>=14.0	0.00	0.00	0.00	0.17	0.92	4.35	0.00	0.00	0.00	.	.	.

CUMULATIVE PERCENT FREQUENCY OF MAXIMUM INSTANTANEOUS WIND SHEAR (SPEED AT 46 METERS MINUS SPEED AT 9 METERS)
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

MAXIMUM WIND SHEAR (M/S)	WIND SHEAR RANGE, METERS PER SECOND											
	-2-0	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	>=10
>=0.0	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99		
>=1.0	49.58	81.76	99.99	99.99	99.99	99.99	99.99	99.99	99.99	99.99		
>=2.0	15.40	48.41	98.12	99.99	99.99	99.99	99.99	99.99	99.99	99.99		
>=3.0	3.97	21.22	88.39	99.15	99.99	99.99	99.99	99.99	99.99	99.99		
>=4.0	0.88	7.23	64.35	64.69	51.72	99.99	99.99	99.99	99.99	99.99		
>=5.0	0.22	2.16	36.69	48.59	27.59	60.00	99.99	99.99	99.99	99.99		
>=6.0	0.07	0.63	16.91	35.31	13.79	40.00	99.99	99.99	99.99	99.99		
>=7.0	0.03	0.19	6.96	24.86	10.34	40.00	99.99	99.99	99.99	99.99		
>=8.0	0.02	0.08	2.80	15.54	8.62	20.00	99.99	99.99	99.99	99.99		
>=9.0	0.00	0.04	1.10	8.19	8.62	20.00	99.99	99.99	99.99	99.99		
>=10.0	0.00	0.02	0.50	5.65	6.90	0.00	0.00	99.99	99.99	99.99		
>=11.0	0.00	0.01	0.27	3.95	6.90	0.00	0.00	99.99	99.99	0.00		
>=12.0	0.00	0.01	0.17	2.54	6.90	0.00	0.00	99.99	99.99	0.00		
>=13.0	0.00	0.01	0.06	2.26	3.45	0.00	0.00	99.99	99.99	0.00		
>=14.0	0.00	0.00	0.04	1.13	0.00	0.00	0.00	99.99	99.99	0.00		

CUMULATIVE PERCENT FREQUENCY OF MAXIMUM INSTANTANEOUS WIND SHEAR (SPEED AT 46 METERS MINUS SPEED AT 30 METERS)
 BY AVERAGE 2-MINUTE WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 30 METERS) RANGES AT LIVINGSTON, MONTANA.
 (VALUES OF ". " ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

WIND SPEED RANGE (M.P.H.)	TURBULENCE INTENSITY, PERCENT															
	<4	4-5	5-10	10-15	15-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	>100	>110	>120
0-0	88.26	46.63	24.63	14.57	8.96	5.79	4.84	3.86	2.76	2.06	1.86	1.68	1.45	1.33	1.25	1.25
0-1	42.99	40.37	46.67	19.90	9.09	5.27	3.34	1.47	1.27	0.84	0.78	0.72	0.66	0.55	0.49	0.49
1-2	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
2-3	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
3-4	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
4-5	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
5-6	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
6-7	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
7-8	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
8-9	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
9-10	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11
10-0	40.99	31.31	38.72	16.72	4.12	2.01	1.16	0.78	0.31	0.25	0.19	0.16	0.13	0.11	0.11	0.11

CUMULATIVE PERCENT FREQUENCY OF ALONGWIND TURBULENCE INTENSITY(30 METERS)
BY WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES OF " " ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E4-40

WIND SHEAR RANGE (M/S)		TURBULENCE INTENSITY, PERCENT																			
		>=0	>=5	>=10	>=15	>=20	>=25	>=30	>=35	>=40	>=45	>=50	>=55	>=60	>=65	>=70	>=75	>=80	>=85	>=90	>=95
>	0.0	99.99	93.69	69.25	47.98	33.50	23.91	17.47	13.36	10.36	8.40	6.86	5.73	4.97	4.33	3.68	3.15	2.76	2.44	2.16	1.93
0.0	1.0	99.99	94.92	56.78	30.13	17.99	11.66	8.12	5.94	4.49	3.50	2.81	2.32	1.91	1.64	1.43	1.27	1.13	0.97	0.86	0.77
1.0	2.0	99.99	92.87	38.38	12.99	5.63	3.15	1.94	1.32	0.97	0.74	0.57	0.46	0.35	0.28	0.25	0.21	0.18	0.15	0.12	0.10
2.0	3.0	99.99	90.98	27.37	8.07	3.88	2.17	1.35	0.82	0.56	0.40	0.25	0.17	0.15	0.12	0.09	0.08	0.07	0.06	0.06	0.04
3.0	4.0	99.99	92.68	22.63	7.30	3.59	2.01	1.14	0.62	0.36	0.26	0.16	0.12	0.10	0.06	0.06	0.04	0.04	0.02	0.02	0.02
4.0	5.0	99.99	92.69	20.36	8.46	4.35	2.30	0.99	0.49	0.33	0.08	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5.0	6.0	99.99	98.24	37.65	12.35	5.88	3.53	2.35	0.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6.0	7.0	99.99	85.19	29.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7.0	8.0	99.99	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8.0	9.0																				
9.0	10.0																				
10.0																					

CUMULATIVE PERCENT FREQUENCY OF ACROSSWIND TURBULENCE INTENSITY(30 METERS)
BY WIND SHEAR(SPEED AT 46 METERS MINUS SPEED AT 9 METERS) AT LIVINGSTON, MONTANA.
(VALUES OF "." ARE SHOWN FOR WIND SHEAR RANGES THAT NEVER OCCURRED)

DATA PERIOD SEP,1985 - NOV,1986.

TABLE E4-41

